Washington State
Enhanced Hazard Mitigation Plan

Prerequisite

I. Compliance with Standard State Plan Requirements

Requirement 44 CFR §201.5(b): Enhanced State Mitigation Plans must include all elements of the Standard State Mitigation Plan identified in **§201.4**.

The Washington State Hazard Mitigation Plan (SHMP) was approved by the US Department of Homeland Security's Federal Emergency Management Agency (FEMA) in a letter from the Regional Administrator dated January 28, 2008.

Comprehensive State Hazard Mitigation Planning Program

Summary of Changes:

The entire Enhanced portion of the SHMP has been updated throughout to Include the most current data available. New data, information, charts and graphs have been incorporated, where appropriate. A new appendix was added to the back of the section which provides a more detailed list of planing initiatives currently on-going throughout the state. The Project Implementation section has been enhanced, and the new project eligibility requirements as stated in the current State's Mitigation Grants Program Administrative Plan is included. A summary is provided with respect to the technical assistance provided for both mitigation planning purposes and to the subapplicants for grant applications. Information is also supplied which demonstrates what has occurred during the 2010 SHMP update cycle with respect to local planning initaitives. The new Project Application Score Sheet used for the most current disasters (DRs 1817 and 1825) is also included.

Program Management Capability section has been enhanced with the most current data, as has the infromation concerning the use of available mitigation funds. The the three tables illustrating the funding approved for HMGP, FMA, and PDM during the 2007-2010 time period have been updated.

The Integration with Other Planning Initiatives has been dramtically enhanced, with a summary of the current status of Growth Management Act planning throughout the

state. The FCAAP results of the past three years has also been updated with current information. Significant information has been included with respect to the status of the state's intention to utilize the RFC and SRL grant programs.

The State's Commitment to a Comprehensive Mitigation Program summarizes various other sections of the SHMP to demonstrate the state's ability to remain focused on enhancing the over-all mitigation programs statewide, including other state agencies' initiatives currently underway, such as WSDOT's mitigation programs and their activities of the past three years, as well as their projections for the future projects.

A new list of applicable the Legislative actions over the past three years that relate to mitigation activities has been added, including an update on the current status of the State's building codes – another of our most beneficial planning initiatives.

While the attempt has been made to provide enough detail to not require one to go to other sections of the plan, it is impossible to incorporate everything within this section. Where appropriate, reference to other sections of the plan has been included should additional information be necessary.

II. Integration with Other Planning Initiatives

Requirement 44 CFR §201.5(b)(1): Demonstrate that the plan is integrated to the extent practicable with other State and/or regional planning initiatives (comprehensive, growth management, economic development, capital improvement, land development, and/or emergency management plans) and FEMA mitigation programs and initiatives that provide guidance to State and regional agencies.

Hazard mitigation planning is integrated into several key state planning initiatives and mitigation programs. The primary examples are the Growth Management Act, Shoreline Management Act, the Flood Control Assistance Account Program, and the FEMA-funded, state-administered hazard mitigation programs. The information below is a brief synopsis of some of the major planning initiatives. A more detailed list is attached as Appendix 1 at the end of this section.

Growth Management Act (GMA) – This state law, Revised Code of Washington (RCW) 36.70A, requires all cities, towns and counties in the state to identify critical areas, and to establish regulations to protect and limit development in those areas. Among the critical areas defined by state law are frequently flooded areas (floodplains, and areas potentially impacted by tsunamis and high tides driven by strong winds) and geologically hazardous areas (those areas susceptible to erosion, landslide, seismic activity, or other geological events such as coalmine hazards, volcanic hazards, mass wasting, debris flows, rock falls, and differential settlement).

Guidance provided to local government states that goals for critical areas protection programs should address:

- Protecting members of the public and public resources and facilities from injury, loss of life, or property damage due to landslides and slope failures, erosion, seismic events, volcanic eruptions, or flooding.

- Maintaining healthy, functioning ecosystems through the protection of unique, fragile, and valuable elements of the environment.

- Directing activities not dependent on critical areas resources to less ecologically sensitive sites and mitigating unavoidable impacts to critical areas by regulating alterations in and adjacent to critical areas.

- Preventing cumulative adverse environmental impacts to frequently flooded areas, among others.

Local governments must consider best available science (defined in Tab 12, *Best Available Science* section of the SHMP) in their identification and protection of critical areas by way of a Critical Areas Ordinance, another of our most powerful tools in place with respect to mitigation. Every seven years, cities and counties must review and revise their critical areas ordinances and policies. All jurisdictions were required to have updated critical areas regulations by the end of 2008. While the majority of the counties have updated their plans, some have not. The reasons for this vary, but for many jurisdictions, it is as a result of the state of economy. Presently, 19 of Washington's 39 counties are considered distressed, having a three-year average unemployment rate equal to or greater than 120 percent of the statewide unemployment rate. As tax bases are lower, jurisdictions have had to down-size, reducing their workforces. A more in depth analysis of the update status of the Critical Areas Ordinances is available within the *Mitigation Strategy* portion of the plan, Tab 6.

The GMA also allows those cities and counties required or choosing to develop comprehensive plans to add an optional natural hazard reduction element to those plans (see the *Mitigation Strategy*, Tab 6, SHMP, for 2009 updates). To facilitate the development of natural hazard reduction elements, the Department of Commerce (Commerce) (formerly known as the Department of Community Trade and Economic Development) – Growth Management Services used a Hazard Mitigation Grant Program (HMGP) grant to develop and publish a guidebook in 1999 on how to incorporate natural hazard reduction into local land-use plans. That guidebook remains a viable tool for use by local jurisdictions.

Additionally, staff members from the State Emergency Management Division's (EMD) Mitigation and Recovery Section work closely with Commerce – Growth Management Services to ensure the connection between hazard mitigation and land-use planning and development regulations. For example, Mitigation staff members routinely identify sources of best available science for frequently flooded areas and geologically

hazardous areas for land-use planners, and participate on an ongoing basis in an interagency coordinating committee on growth management planning. This level of cooperation with Commerce and with the state's Department of Ecology (Ecology) will become even more valuable as FEMA's revised Flood Insurance Rate Maps are completed and adopted within the state.

Shoreline Management Act (SMA) – This program, administered by Ecology, requires local jurisdictions with shorelines to develop regulations that accommodate reasonable and appropriate uses, protect shoreline resources, and protect the public's right to access and use shorelines (see the *Mitigation Strategy*, Tab 6, SHMP, for 2009 updates). Local jurisdictions can use shoreline regulations to avoid or minimize development on unstable shoreline slopes and in frequently flooded areas. Ecology updated implementing regulations in 2003; they are more comprehensive than before and require local shoreline regulations to better incorporate science and protect critical resources and physical processes and functions. To date Ecology has provided over $10 million in planning grants to help fund local shoreline planning and regulation development efforts. It is estimated that more than 260 towns, cities, and counties will update their Shoreline Master Programs (SMP) by 2014 and over 120 of those jurisdictions have started that effort. To aid in this effort, the State Legislature and Governor approved an amendment to RCW 90.58.080 of the SMA effective July 22, 2007 in which an extension of an additional year could be granted to local governments to complete their SMPs. On the same date an additional amendment to RCW 95.58.030 of the SMA was approved which revised the definition of a floodway giving local governments more options regarding floodway mapping.

Flood Control Assistance Account Program (FCAAP) – This program, administered by Ecology, provides financial assistance to eligible local agencies that belong to the National Flood Insurance Program (NFIP) for preparing comprehensive flood control management plans and flood damage reduction projects that protect human life and property from flood related incidents (see the *Mitigation Strategy*, Tab 6, SHMP, for updates through 2009).

State budget reductions were implemented for the present biennium, 2009-11, that cut FCAAP funding by 50%. This, effectively, eliminated the competitive grant portion of FCAAP, leaving less than $400,000 for emergency projects. These emergency funds were awarded to two emergency projects in 2009. One grant was provided to Yakima County to assist in acquiring two structures under imminent threat of destruction by flood because of a massive landslide which altered the course of the Naches River. The other grant was provided to King County for a project to prevent potential flood waters from entering a hazardous waste site threatened by flooding from the Green River because of the reduced flood control capacity of the Howard Hanson Dam.

In the 2009-11 biennium, an additional $1.35 million was provided to fund flood hazard mitigation projects according to specified legislative criteria, including priority for communities least able to fund such projects and most ready to proceed. This resulted in Ecology awarding grants for 13 projects in 12 communities. The cities and counties

will use these funds for various purposes such as acquiring flood-prone properties, installing watertight lids to prevent stormwater infiltration into local sewer systems, and removing levees to improve flood protection and restore natural stream functions.

In previous biennia FCAAP funded 27 projects for $2.2 million in 2005-07 and 20 projects for $1.3 million in 2003-05. In this latter biennium the State Legislature had reduced FCAAP funds by 50 percent from its statutory $4 million level. Ecology foresees level funding at the statutory amount for future biennia; however, additional funding is needed to allow the program to effectively meet cost increases since its inception in 1984.

To be eligible for an FCAAP grant, the appropriate local authority with flood control jurisdiction over the area where the proposed project is located must have a Comprehensive Flood Control Management Plan (CFCMP) approved by Ecology, in consultation with the Department of Fish and Wildlife. Whereas local hazard mitigation plans demonstrate "the jurisdiction's commitment to reduce risks from natural hazards, serving as a guide for decision makers as they commit resources to reducing the effects of natural hazards" (44 CFR 201.6), the purpose of the CFCMP is to comprehensively evaluate problems and proposed solutions to flood hazard reduction specifically. FCAAP funding for CFHMPs is available up to 75% of the total project cost. The CFCMP's specific requirements are detailed in WAC 173-145.

Federal hazard mitigation programs – State hazard mitigation planning is integrated into the HMGP, Flood Mitigation Assistance Program (FMA), and the Pre-Disaster Mitigation Program (PDM). For example, since early 2002, the state required recipients of HMGP construction grants to develop a hazard mitigation plan as a condition of receipt of the grant; this requirement led to the completion of nine hazard mitigation plans for communities that otherwise might not have developed a plan. And, the state's administrative plan for all three programs requires all construction-related mitigation projects to support the general mitigation objectives in the state's hazard mitigation strategy. Since April 1989, the HMGP has provided an aggregate investment of more than $98.7 million for planning and projects designed to reduce or eliminate hazard-caused damage throughout the state, ranging from strengthening water towers so they do not fall during earthquakes, to purchase of repetitive flood-loss properties.

Much smaller investments from the PDM (est. $16 million) and the FMA (est. $2.1 million) have paid for mitigation projects and development of local hazard mitigation and flood plans. Additionally, several local jurisdictions have invested their Emergency Management Performance Grant (EMPG) funds in hazard mitigation planning.

In the 2008 Washington State Enhanced Plan, a number of steps were identified to mitigate and reduce the number of repetitive loss and severe repetitive loss properties. One step was to revise the HMGP application to indicate that mitigating these properties are a priority of the state. The HMGP application package and project evaluation, scoring and prioritization criteria were extensively revised for the DR-1817 and DR-1825 Hazard Mitigation Grant Programs, to include additional points for mitigating repetitive

flood-loss structures through acquisition, elevation or relocation, and for providing a long-term solution for a repetitive problem such as repetitive flood damage. The State Mitigation Grant Programs Administrative Plan, updated June 2009, and approved by FEMA in August 2009, allows the state to establish priorities for HMGP for projects that will be considered and recommended for funding outside of the competitive process. For the DR-1817/DR-1825 HMGPs, the state made acquisition of substantially damaged, flooded properties a priority for funding; in general, properties that are substantially damaged in a flood event have been damaged repeatedly by this hazard. The state submitted to FEMA five applications for acquisition of properties substantially damaged in the DR-1817 January 2009 Flood Disaster; these applications were for acquisition of repetitive loss properties (14 homes and one mobile home park in King, Lewis, Pierce, and Whatcom Counties). Because of funding limitations in these two Hazard Mitigation Grant Programs, the state recommended to at least two jurisdictions (i.e., King County and City of Snoqualmie) that they remove severe repetitive loss properties from their HMGP applications and submit applications of funding for them through the FY09 or FY10 Flood Mitigation Assistance program.

In addition, the state has taken – and will continue to take – action to increase the number of project applications for the mitigation of Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties. In notices of availability of funding for Pre-Disaster Mitigation and the three flood-mitigation programs, the state has encouraged communities to consider applying for funds for projects to mitigate RL and SRL properties, noting that funding for SRL properties could be up to 90 percent federal funds as a result of the repetitive loss reduction strategy in the State Enhanced Hazard Mitigation Plan. In 2009, the state, in concert with staff from FEMA Region 10 and Headquarters staff, offered SRL program training and outreach assistance to communities with SRL properties; the training and outreach assistance was not completed as scheduled because of a lack of interest due to looming application deadlines for the DR-1817/1825 HMGPs. The training has been rescheduled for July 2010; as of May 2010, more than 25 staff from SRL communities and state staff have signed up for training and outreach assistance, and it is anticipated the training will be offered as scheduled.

Also, in advance of the FY11 Hazard Mitigation Assistance application period, the state is encouraging communities to consider applying for funds through the Repetitive Flood Claims (RFC) and SRL program for FY11. The state anticipates that one or more applications for the RFC program will be received from financially distressed communities because they cannot meet the match requirements of the Flood Mitigation Assistance Program due to the current recession. This will be a signficiant factor as presently 19 of the state's 39 counties are considered economically distressed due to high unemployment rates. Also, the state provided information to communities with SRL properties of a new FEMA pilot program to use Increased Cost of Compliance funding as match for the SRL grant program in another attempt to encourage projects to mitigate SRL properties.

Finally, the state is providing requesting communities with lists of RL and SRL properties for use in developing mitigation grant applications and in their hazard mitigation plan updates, and is helping communities to appropriately address the National Flood Insurance Program compliance requirements as they update existing hazard mitigation plans or develop initial plans.

Local Mitigation Planning — The State EMD works with local jurisdictions to encourage and support local hazard mitigation planning, as well as mitigation project development and funding. The section's staff members provide ongoing assistance through on-site visits, assist local jurisdictions to obtain grant funding for plan development and review, coordinate information requests of state government, and participate in local plan development activities. The level of assistance requested and provided by Mitigation and Recovery Section staff has varied by community and the level of experience and knowledge of local staff as well as complexity of issues and numbers of jurisdictions involved in a particular plan. The Mitigation and Recovery Section staff provided the G318 Hazard Mitigation Planning course to all jurisdictions interested in attending. Likewise, the State Hazard Mitigation Strategist and State Hazard Mitigation Officer provided one-on-one training at different workshops throughout the state to assist local planners who were developing or updating their local Hazard Mitigation Plans. In conjunction with DR1817 and DR1825, FEMA and State personnel also provided training for HAZUS to assist jurisdictions in completing hazard modeling. The technical assistance provided during the 2007-2010 timeframe was quite extensive. EMD Mitigation staff provided training to in excess of 225 individuals; provided technical assistance workshops through a newly formed Hazard Mitigation User's Group to 40+ individuals, encompassing 25+ jurisdictions; provided Risk Analysis training two times, and conducted site visits to install and teach HAZUS on site to numerous local jurisdictions. A detailed accounting of all of the technical assistance provided is contained within Tab 3, *Coordination of Local Mitigation Planning*.

Additionally, as this has been a difficult endeavor for some juristidictions to complete, a Risk Assessment matrix has been developed which will enable jurisdictions with limited resources the ability to conduct a valid risk assessment for their jurisdictions during the planning cycle. During various training and meeting events, many jurisdictions expressed concern and uncertainty over their ability to conduct a valid risk assessment. Likewise, a large portion of the State's jurisdictions do not have GIS capabilities to perform hazard identification. Many jurisdictions requested the State develop a matrix which would enable them to perform the risk analysis function in a manner consistent with other, larger jurisdictions. In an effort to provide this assistance, State Hazard Mitigation Strategist researched various techniques in an effort to develop one which would be easily completed by all jurisdictions. The end product was distributed to 25+ jurisdictions, planners, and private contractors to gain their perspective on the effectiveness of the risk assessment matrix. All provided a very favorable response, with many of the jurisdictions indicating that they will utilize the matrix within their plans.

In order to fulfill the request for GIS assistance, State Emergency Management Division has also completed HAZUS runs for those jurisdictions that did not have the ability to

perform this function. Additionally, in an effort to provide the most accurate data available, EMD applied for and received a HMGP Grant to update datasets for local jurisdictions' critical facilities statewide to enhance loss estimations when conducting Risk Assessments. Additional information on this project can be found within the Tab 3, *Coordination of Local Mitigation Planning*, page 5.

In conjunction with USGS, Washington State Department of Natural Resources, Washington State Emergency Management Division Earthquake and Tsunami Program and Hazard Mitigation Section conducted 15 HAZUS shake model studies on known Washington faults which, as of this update, are being reviewed prior to publication, but will be available to the local jurisdictions by August 2010 for use in mitigation planning purposes and exercise/drill development.

As of January 31, 2010, there are 48 approved local and tribal hazard mitigation plans in Washington. While the number of overall plans is down from 2007, many of the individual plans during the 2007-2010 update cycle became regional or county-wide plans, and include many more jurisdictions and special purpose districts. These plans cover in excess of 412 local jurisdictions – cities, towns, counties, special districts such as schools, hospitals, fire, cemetery, water, sewer, dike and flood control districts, and a handful of private, non-profit organizations. In addition, plans currently under development (expired jurisdictions going through the update process or in review) cover an additional 100 jurisdictions, and 6 new county plans are currently under development which will include an estimated 75 jurisdictions. Once all of these plans are completed (the majority within the next 6 months) less than 40,000 residents will not be covered by a mitigation plan, with only Adams and Klickitat Counties without plans. The state will continue in its efforts to persuade the remaining two counties to complete hazard mitigation plans during the next three year period. All remaining counties will have plans in place, covering 99.43 percent of the state's population. See table below for a general timeline on when plans have been developed.

Approved Local Hazard Mitigation Plans – 48 as of January 31, 2010							
	Approval Year						
	2002	2003	2004	2005	2006	2007	2010
Estimated Percentage of State Population Covered by Local Hazard Mitigation Plan	0%	6.5%	47.0%	73.1%	77.1%	89.9%	99.43%
Percent of State Goal (85% of Population)	0%	7.6%	55.3%	86.0%	90.8%	106%	116.98%
State Population: 6,375,600 (April 2006 OFM Estimate); 2010 numbers are projections through year-end.							

During the time period April 2007 to January 31, 2010, 26 new plans, covering 135 jurisdictions were added. These include:

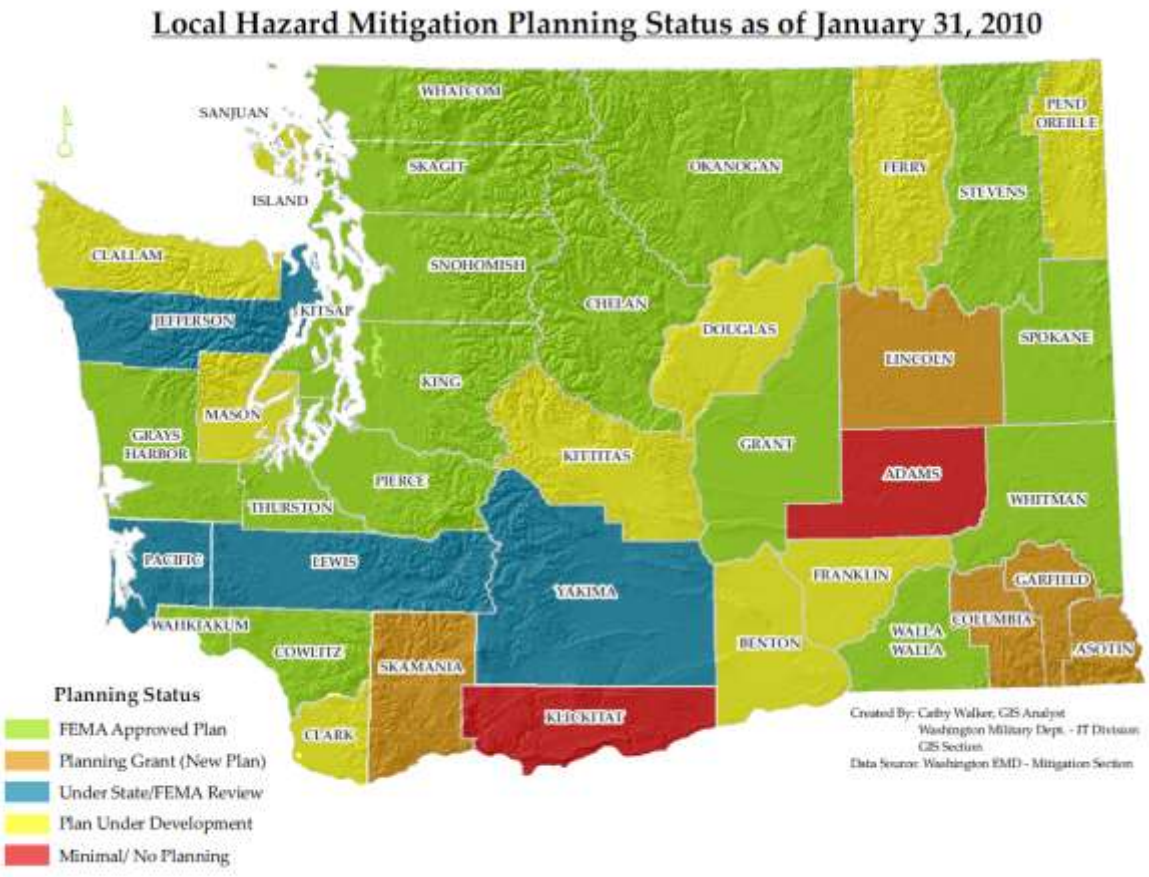
3 Regional Plans
8 County plans
5 City Plans
1 University
6 Tribal Plans
3 Large Special Purpose Districts

Currently, as indicated on the map below, as of January 31, 2010, there are:

3 Regional plans
18 Countywide approved plans
13 Countywide plans in the update process
8 Tribal plans in place
7 Tribal plans under development
8 City plans in place
5 new local plans under development
1 county plan which expired several years ago now in the planning process
4 plans are under FEMA review (or being revised by their communities based on first review);
3 county plans have undergone at least one state review but require changes (considered to still be in the planning process indicated in yellow).
2 jurisdictions do not intend to develop a mitigation plan.

Note: Some of the plans are listed in more than one category above as they may be current but in the update process.

The map below depicts the status of local hazard mitigation planning initiatives. This map has changed significantly since the 2004-2007 map (available for viewing within Tab 3, *Coordination of Local Mitigation Planning*, page 16). Review demonstrates the fact that the state has entered its first phase of plan updates. Comparison with the 2007 map also demonstrates the increased number of new plans.



Not noted within these calculations are the various city and special purpose district plans currently under development. These are jurisdictions which have elected to not become part of a county or regional plan, and are undertaking the planning process independently. There are currently an estimated 25 plans of this type under development.

The following provides a snapshot view of anticipated plans which will be developed or updated during the 2010-2013 plan cycle. Note: all the tribal planning efforts are in progress.

County Plans Summary of Timelines

Note: Gray area indicates plan expiration date within that time period

Jurisdiction	Funding Source	Jan-Mar 10	Apr-Jun 10	Jul-Sep 10	Oct-Dec 10	Jan-Jun 11	Jul-Dec 11	Jan-Dec 12	Jan-Jun 13
Kittitas County - **New**	HMGP-1817								
Lincoln County - **New**	HMGP-1817								
Pacific County - **New**	PDM								
Pierce County Phase 2 - **New**	HMGP-1734								
Pierce County Phase 3 - **New**	HMGP-1734								
Skamania County - **New**	PDM								
Benton County	HMGP-1682								
Chelan County	HMGP-1817								
Clallam County	Local								
Clark County	Local								
Cowlitz County	HMGP-1734								
Douglas County	HMGP-1734								
Ferry County	Local								
Franklin County	Local								
Jefferson County	HMGP-1734								
Kitsap County	Local								
Lewis County	Local								
Mason County	HMGP-1817								
N King and S Snohomish Cntys	Local								
Pend Oreille County	HMGP-1734								
Yakima County	Local								
Snohomish County	PDM								
Walla Walla County	HMGP-1734								
Whatcom County	Local								
Grays Harbor County	HMGP-1734								
Whitman County	HMGP-1817								
Grant County	HMGP-1817								
Spokane County	Local								
Island County	Local								

Status of Planning Efforts

In FEMA Review | In State Review | In Progress

Tribal Plans Summary of Timelines

Note: Gray area indicates plan expiration date within that time period

Jurisdiction	Funding Source	Jan-Mar 10	Apr-Jun 10	Jul-Sep 10	Oct-Dec 10	Jan-Jun 11	Jul-Dec 11	Jan-Dec 12	Jan-Jun 13
Hoh Tribe - **New**	HMGP-1671								
Lower Elwha Tribe - **New**	HMGP-1682								
Makah Tribe - **New**	HMGP-1734								
Nooksack Tribe - **New**	HMGP-1682								
Quinault Tribe - **New**	HMGP-1734								
Snoqualmie Tribe - **New**	HMGP-1734								
Jamestown S'Klallam Tribe	HMGP-1734								
Kalispel Tribe	Local								
Squaxin Island Tribe	Local								
Suquamish Tribe	Local								
Tulalip Tribe	Local								
Lummi Tribe	Local								
Sauk-Suiattle Tribe	Local								

Enhanced Plan

Washington Emergency Management is committed to the continued progress of local jurisdictions in completing their mitigation plans, and has developed mitigation action item #3.1.1 (Tab 6, *Mitigation Strategy, within Emergency Management Division's strategies*) to ensure continued involvement on the part of the division in support of local jurisdictions.

Emergency Management Plans — RCW 38.52 delineates the need for a comprehensive emergency management program administered by the state and authorizes the creation of local organizations for emergency management in the political subdivisions of the state. Emergency Management is defined as the preparation for and the carrying out of all emergency functions…to mitigate, prepare for, respond to, and recover from emergencies and disasters, etc.

The State EMD created a Comprehensive Emergency Management Planning Guide "to help state agencies, local governments, tribal nations and businesses develop an integrated planning program that focuses on the complete spectrum of incident management activities". The guide specifically references the Washington State Enhanced Hazard Mitigation Plan along with other references to help in identifying hazards within a jurisdiction among other things. As of March 31, 2010, 12 counties have up to date plans, nine are in progress, 16 are out of compliance and two are due by the end of 2010. The Emergency Planning Program Coordinator in EMD offers individual planning assistance in addition to the planning guide.

In addition to the above, the state has become very active in its attempts to mitigate against the impact of climate change by passing numerous Legislative Bills and Executive Orders to guide the state's future efforts for reducing greenhouse gas emissions. Examples of this legislation are contained within the *Loss Avoidance Study*, Tab 9.

The state has been and will continue to be very proactive in mitigation planning efforts. A more concise list of additional details on integration of hazard mitigation into other initiatives is contained within the *Capabilities Matrix*, a copy of which can be found within the *Mitigation Strategy* portion of the plan, Tab 6. Additionally, section VII below also provides additional information on this matter.

Clearly, the concept of hazard damage reduction and / or state hazard mitigation planning can be – and should be – integrated into other important state and local planning initiatives such as economic development and capital improvement . Before the next edition of the SHMP, a subcommittee of the State Hazard Mitigation Advisory Team will explore the feasibility of integrating hazard mitigation with other statewide planning initiatives, develop a planning integration strategy, and determine appropriate measures to begin implementing it.

III. Project Implementation Capabilities

Requirement 44 CFR §201.5(b)(2)(i-ii): Document the State's project implementation capability, identifying and demonstrating the ability to implement the plan, including:

Establishing eligibility criteria for multi-hazard mitigation measures.

A system to determine the cost effectiveness of mitigation measures, consistent with OMB Circular A-94, Guidelines and Discount Rates for Benefit- Cost Analysis of Federal Programs, and to rank the measures according to the State's eligibility criteria.

The State EMD's Mitigation and Recovery Section developed state criteria for determining eligibility of proposed multi-hazard mitigation measures. The Mitigation Grants Program Administrative Plan (latest edition, June 2009), pages 9-10, in Tab 8 of the SHMP lists federal and state criteria used for all federal hazard mitigation programs, to include HMGP, PDM, FMA, RFC and SRL, which can be viewed below.

V. PROJECT ELIGIBILITY REQUIREMENTS

A. Federal Criteria

According to the requirements of 44 CFR Part 206.434, a project must:

Be in conformance with the State Enhanced Hazard Mitigation Plan and the applicable local mitigation plan approved under 44 CFR Part 201;

Be located in a community participating in good standing in the National Flood Insurance Program;

Meet all applicable federal, state, and local permit requirements, and not contribute to or encourage development in the floodplain, wetlands, or other hazardous areas, and support environmental justice (Federal Executive Orders 11988, 11990 and 12898); and

Be cost effective and substantially reduce the risk of future damage, hardship or loss or suffering, in that it:

a. Addresses a problem that has been repetitive or that poses a significant risk if left unsolved.

b. Will not cost more than the anticipated value of the reduction in both damages and subsequent negative impacts to the area, if future disasters were to occur.
c. Has been determined to be the most practical, effective, and environmentally sound alternative after consideration of a range of options.
d. Contributes, to the extent practicable, to a permanent or long-term solution of the problem it is intended to address.
e. Considers long-term changes to the areas and entities it protects, and has manageable future maintenance and modification requirements.

B. State Criteria

A project also must be indentified in the applicable local hazard mitigation plan or support its goals and objectives. It also should meet one or more of the following state criteria:

a. Protect lives and reduce public risk.
b. Reduce the level of disaster vulnerability in existing structures.
c. Reduce the number of vulnerable structures through acquisition, relocation, flood proofing, seismic retrofitting, or other measures.
d. Avoid inappropriate future construction in areas known to be vulnerable to future disasters.
e. Restore or protect natural resources, recreation, open spaces, and other environmental values.
f. Develop and implement comprehensive programs, standards, and regulations that reduce disaster damage.
g. Increase public awareness of natural hazards, preventive measures, and emergency responses to disasters.
h. Upon completion, have affordable operation and maintenance costs.

Eligible jurisdictions that are not yet participating in the National Flood Insurance Program (NFIP) will be required to join NFIP as part of a hazard mitigation planning grant award. They must join before the Division submits the draft local hazard mitigation plan to FEMA for review and approval. Eligible jurisdictions are those with authority over land use, and include cities, towns, counties, and federally recognized Indian Tribes.

Before proposed project applications are submitted to the Mitigation Grant Review Committee for scoring and ranking (see narrative entitled *Prioritization of Proposed Mitigation Projects* below), staff members from the State EMD's Mitigation and Recovery Section work closely with applicants to ensure that their proposals are cost-effective. Benefit-cost analyses for the proposed mitigation projects use FEMA-approved benefit-cost modules, which are based on the benefit-cost criteria established in *OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of*

Federal Programs. Only projects with a benefit-cost ratio of at least 1.0 are forwarded to a review committee for further consideration and evaluation against federal and state criteria.

Mitigation and Recovery Section staff members receive specialized benefit-cost analysis (BCA) training from FEMA to better understand the concept of benefit-cost and to help applicants with their benefit-cost analysis. Under DR 1817 and DR 1825, FEMA made arrangements for three staff members to receive BCA training at the JFO. Additionally, at the State's request, FEMA provided BCA training for local jurisdictions in June 2009 in an effort to help jurisdictions more accurately complete the BCA portion of the grant applications.

Upon the State EMD receiving the BCA training, the Mitigation and Recovery Section was then able to provide:

- Workshops to help potential grant applicants understand the benefit-cost concept, and to help them assemble the necessary data for the BCA.

- Worksheets in the grant application that guide the development of the benefit-cost narrative and the data necessary for an accurate and complete BCA.

- Individual training and technical support to potential grant applicants, upon request. Such support includes walking applicants through appropriate benefit-cost modules and providing feedback to ensure development of the best possible benefit-cost ratio.

Furthermore, as part of the review of the project applications submitted under DR 1817 and 1825, the State EMD Mitigation and Recovery Section hired a contractor to review and evaluate all BCAs included in the applications. The selected contractor was highly experienced with FEMA's BCA software and had conducted similar work with the State of Oregon on their recent HMGP. With this additional professional review, the State EMD staff had high confidence in the validity of each BCA and that each project submitted to FEMA would ultimately be approved.

<u>Prioritization of Proposed Mitigation Projects</u>:

A Mitigation Grant Review Committee of state and local representatives evaluates and prioritizes eligible mitigation grant applications. The committee uses a scoring system to prioritize projects according to both federal and state eligibility criteria listed in the *Mitigation Grants Program Administration Plan*, Tab 8 of the SHMP.

For each round of grant funding, a review committee of at least five members, as described below, is convened:

- Two individuals from the Military Department – usually the Mitigation and Recovery Section Manager and the State Hazard Mitigation Program Manager.

- One supervisor or designee of the particular state agencies related to the particular type/nature of the project (example: Department of Ecology representative for floods, Department of Natural Resources for geologic hazards).

- Two individuals, one from a city, and one from a county or appropriate special service district, located outside of the declared disaster area or from a community not applying for mitigation funds.

The committee uses a scoring system that emphasizes seriousness of risk when considering an applicant's responses to the federal and state eligibility criteria. Among the criteria receiving greatest weight in scoring are those dealing with reduction of risk posed by hazards, prevention of repetitive losses, and reflecting the most practical, effective, and environmentally sound solutions.

Criteria for construction (both structural and non-structural) projects:

WASHINGTON STATE
HMGP DR 1817/1825 PROJECT APPLICATION
REVIEW COMMITTEE EVALUATION SCORE SHEET

DATE:	**REVIEWER:**
APPLICANT:	
JURISDICTION:	
PROJECT TITLE:	
TOTAL SCORE:	**ORDINAL RANKING:**

DIRECTIONS: The evaluation sheet is separated into sections I-IV, each with an assigned total point value. Each section corresponds to a particular section of the application you have been given to review. For example, to score items in I. Proposed Project, you will review Section 4 of the application packet.
Point Score: There are 12 scored items with a total of 135 points possible. Each application will be scored on its own merit.
Ordinal Ranking: Once you have completed scoring the applications you will assign an ordinal ranking with #1 being the highest. The #1 application may not necessarily be the one with the highest number of points. After reviewing all the applications and weighing their benefit how would you prioritize them for funding?

I. PROPOSED PROJECT - SECTION 4 OF APPLICATION	**POINTS**	
1. Substantially reduces the risk of future damage, hardship, loss, or suffering resulting from a major disaster	0-10	
2. Addresses, minimizes, or avoids impacts to environmental/historic preservation, natural, cultural or historic resources	0-10	
3. Provides a long-term solution to a repetitive or imminently dangerous situation	0-10	
4. Solves a problem independently, or functions as a beneficial part of an overall solution.	0-10	
PROPOSED PROJECT SUBTOTAL (40 Points possible)		

II. SCOPE OF WORK – SECTION 5.1 OF APPLICATION	**POINTS**	
5. Clearly describes the problem(s) to be mitigated, the project's purpose and outcome(s).	0-15	
6. Clearly defines the population that directly or indirectly benefits from the proposed project.	0-15	
7. Includes details about the conceptual design, specific work components for implementation and construction, *how* it will be implemented, and by *whom*?	0-15	
SCOPE OF WORK SUBTOTAL (45 Points possible)		

HMGP Project Evaluation Score Sheet Page 1

III. PROJECT ALTERNATIVES – SECTION 10 & 4.12	POINTS	
8. Reflects the most practical, effective and environmentally sound solution from among all alternatives considered. (Narrative on this in Section 4.12)		
Note: *Applicants must demonstrate through a written narrative that they have considered three alternatives (one being 'no action') and determined the proposed alternative to be the most practical, effective, and environmentally sound among the possible solutions. (We have not included the "No Action" alternative for these applications as the initial review determined that the "No Action" alternatives were not cost effective, practical or effective.)*	0-30	
PROJECT ALTERNATIVES SUBTOTAL (30 Points possible)		
IV. OTHER ITEMS TO CONSIDER	**POINTS**	
9. Project completed within 0-12 months (See Work Schedule in Section 5 *or* Section 8 if it was included in the application packet)	5	
Project completed within 13-24 months	2	
10. Addresses structures in repetitive flood loss areas either by acquisition, elevation or relocation	5	
11. Has multiple objectives such as damage reduction, environmental enhancement and economic recovery	5	
12. Has a beneficial impact on more than one community or is multi-jurisdictional	5	
OTHER ITEMS TO CONSIDER SUBTOTAL (20 Points possible)		
TOTAL SCORE I-IV (135 total points possible)		
ORDINAL RANKING (out of all apps being reviewed; 1 is highest):		

REVIEWER REMARKS
Pros and cons of Project or Issues to discuss with the Review Committee.

HMGP Project Evaluation Score Sheet Page 2

Criteria for planning projects:

MITIGATION GRANT PROGRAMS
PLANNING APPLICATION EVALUATION SCORE SHEET

APPLICANT:_____

PROJECT TITLE/DESCRIPTION:_____

SCORES: PART 1 _____ PART 2: _____ PART 3:_____ TOTAL: _____

Please rate how well the application addresses each element of the criteria below:

PART 1. PLANNING PROCESS 15 – Points 0 - 15 pts_____

Each question is weighted at 5 points.

1. How well does the applicant describe how it provides the public an opportunity to participate in the planning process?

2. How well does the applicant describe how it will include neighboring communities, local and regional agencies, business, academia, and other interests in the planning process?

3. How well does the applicant describe previous planning efforts and how it will incorporate them into this all-hazards planning process?

PART 2. RISK ASSESSMENT ELEMENT 35 – Points 0 - 35 pts _____

Each question is weighted at 7 points.

1. If the applicant has a current Risk Assessment, does it contain a description of the type, location, and extent of all natural hazards that can affect the jurisdiction?

2. If the applicant does not have a Risk Assessment, how well does the application describe how it will be completed?

3. How well did the applicant document previous occurrences of hazard events and the probability of future hazard events?

4. Has the applicant completed a **vulnerability** assessment for the hazards identified in their risk assessment that includes:

    a. The types and numbers of existing and future buildings, infrastructure and critical facilities located in the identified hazard areas;

    b. An estimate of the potential dollar losses to vulnerable structures identified and a description of the methodology used to develop this estimate;

c. A general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

5. If the applicant has not completed a vulnerability assessment, how well did the application describe how it will complete the above elements of a vulnerability assessment?

PART 3. MITIGATION STRATEGY ELEMENT – 130 POINTS **0 – 130 pts. _____**

Each question is weighted at 10 points each.

1. If the applicant currently has a mitigation strategy does it contain a description of local mitigation goals and objectives with proposed strategies, programs, and actions to reduce or avoid long term vulnerabilities to the identified hazards?

2. If not, how well does the applicant describe how it will develop these goals, objectives, strategies, and programs?

3. Has the applicant conducted an analysis of a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each identified hazard, with particular emphasis on new and existing buildings and infrastructure?

4. If not, how well did the applicant describe how it will complete the analysis and what areas it will cover?

5. How well did the applicant describe how it will develop an action plan describing the actions in the analysis element and how it will prioritize and implement the plan?

6. Did the applicant develop a set of specific cost-effective mitigation projects that will reduce damages from future disaster that includes a summary of how it identified and prioritized these actions?

7. If not, did the applicant describe what types of projects it might consider and how it would prioritize them?

8. Did the applicant describe how these actions will support the mitigation goals and priorities of the community?

9. Did the applicant provide a description of its process to reduce the number of NFIP target repetitive loss properties in the community and a summary of how well the process works?

10. If not, did the applicant describe how it will address the repetitive flood loss issue in its community?

11. How well did the applicant describe whether or how it is committed to reducing damages from future natural disasters through the development of partnerships with businesses, academia and other private and non-profit interests able to provide financial or technical assistance in support of its mitigation goals and priorities? Did the applicant provide specific examples of any current activities?

12. How well did the applicant describe the development trends within its community and discuss actions to mitigate disaster losses?

13. Did the applicant discuss if its plan will require any interagency agreements to implement?

PART 4. PLAN MAINTENANCE ELEMENT – 20 POINTS **0 – 20 pts_____**
Each question is weighted at 4 points each

How well does the applicant address the following:

1. A section describing the established method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.
2. A process by which the applicant will incorporate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans.
3. A discussion on how the community will maintain public participation in the planning process.
4. Plans for formal adoption of the plan by the community.
5. A section describing how the local plan will be implemented and administered by the local government including discussion of how officials will approach and manage mitigation actions involving the acquisition of private property

REVIEWER REMARKS Additional Comments

Ordinal Ranking among all planning applications reviewed:_____

Once the Mitigation Grant Review Committee evaluates and ranks the proposed applications in priority order, the State EMD's Mitigation and Recovery Section applies the prioritized project applications against the available funding and prepares a project recommendation package for the EMD Director's signature and forwarding to FEMA's Region 10 office for additional review, approval, and funding.

IV. Program Management Capability

Requirement 44 CFR §201.5(b)(2)(iii)(A-D): Demonstrate that the State has the capability to effectively manage the HMGP as well as other mitigation grant programs, including a record of the following:

Meeting HMGP and other mitigation grant application timeframes and submitting complete, technically feasible, and eligible project applications with appropriate supporting documentation.

Preparing and submitting accurate environmental reviews and benefit-cost analyses.

Submitting complete and accurate quarterly progress and financial reports on time.

Completing HMGP and other mitigation grant projects within established performance periods, including financial reconciliation.

FEMA Region 10 certifies that the State of Washington has demonstrated that it has the capability to effectively manage FEMA-funded hazard mitigation grant programs. A copy of its most recent certification is on the following three pages.

U.S. Department of Homeland Security • Federal Emergency Management Agency

ENHANCED STATE MULTI-HAZARD MITIGATION PLAN
PROGRAM INFORMATION WORKSHEET

Documentation for 44 CFR 201.5(b)(2)(iii):
Demonstration of State Capability to Effectively Manage the HMGP and other Mitigation Grant Programs

The FEMA Region's Mitigation Division is responsible for advising the Regional Director on the State's capability to effectively manage the Hazard Mitigation Grant Program and other mitigation grant programs, such as the Flood Mitigation Assistance Program and Pre-Disaster Mitigation Program, to meet the Enhanced State Plan criteria contained in 44 CFR Part 201.5(b)(2)(iii). This Program Information Worksheet will be completed by the Region's Mitigation Division. In addition to the information provided in the Enhanced State Plan, the Mitigation Division will consult regional personnel responsible for the management of the related programs (HMGP, FMA, PDM-C), the Regional Assistance Officer for pre- and post-disaster mitigation grants, and the Regional Environmental Officer regarding the state's effective management of mitigation programs. If applicable, the Region will also review program audits conducted by FEMA, Office of Inspector General, and/or the General Accounting Office.

Note: Fill in the Explanation column and check either the Not Met or Met box. Indicate in the Explanation column whether an identified problem is an irregularity or deficiency. These terms are defined as follows:
Irregularity – not regular; a deviation from the normal practice (e.g., Did not provide quarterly reports on the dates agreed upon due to personnel deployed to flood disaster #1234. Complete quarterly reports received 50 days after the due date.)
Deficient – inadequate; not sufficient (e.g., State is chronically late with quarterly report submissions, and quarterly report submissions are frequently missing critical information.)
Check the Not Met box if the problem is a deficiency. Otherwise, check the Met box.

Documentation Statements

	No	Yes
FEMA Region X documents that the State of Washington Multi-Hazard Mitigation Plan accurately reflects the management of the State's hazard mitigation program. If not, the Region will require revisions to the plan prior to continuing the review process.		X

FEMA Region X documents that the State of Washington, based on a review of four complete quarters ending July 31, 2007 has a record of the following:

	Explanation:	Not Met	Met
(A) Meeting all mitigation grant application timeframes and submitting complete, technically feasible, and eligible project applications with appropriate supporting documentation;			
(1) State submits grant applications within the period established in the notice of funds availability or statutory guidelines.	The State has demonstrated its commitment to submit grant applications within established guidelines over the last 10 declared disasters, and has continued that pattern in the last 4 quarters.		X

Date: May 2005

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	Explanation:	Not Met	Met
(2) State requests for extensions (application period and performance extensions) are timely, for extenuating circumstances, and with justifiable documentation.	Washington utilizes its own extension policy to ensure consistent and eligible grant extension requests to be submitted to FEMA. The State has been successfully utilizing this extension policy since its implementation five years ago.		X
(3) Application packages are fully developed and complete (i.e. no additional information or correction to the Statement of Work, Budget Narrative, Budget Worksheets, or financial documents are necessary).	Washington has a comprehensive application package that it utilizes for all of its grant programs. This package requires thorough Statements of Work, Budgets, and Benefit-Cost Analysis and Narratives. This application package has been utilized for over 10 years, with success, in this State. The State also provides technical assistance to help applicants prepare applications.		X
(4) State submitted grant applications are technically feasible (projects or activities can be implemented with available resources and mitigate the identified hazard).	The State does an excellent job of ensuring mitigation projects submitted are technically feasible. No issues.		X
(5) State submits grant applications that meet the program eligibility requirements.	Washington State has no history of submitting an ineligible grant application to FEMA Region X. The State process of reviewing and evaluating grant applications is thorough and effective.		X
(B) Prepare benefit-cost analyses and submit accurate environmental reviews;			
(1) State possesses the capability to work with an applicant to identify potential environmental issues and requirements, then determine the completeness and adequacy of the environmental analysis and documentation. The state's review should verify that all potential environmental impacts have been addressed; that information has been developed to evaluate the significance of those impacts; that adequate consultation has taken place with appropriate Federal, state, tribal, local agencies, and other interested parties concerning project impacts; and that the appropriate resolution has been proposed. **OR** state has an established process for identifying and requesting necessary assistance with environmental review.	Washington has a process for identifying and requesting necessary assistance with environmental reviews. The State performs an initial preliminary environmental review to identify potential issues based upon information that is required as part of the application process. Washington also assists the Regional Environmental Officer in the NEPA and environmental reviews, as requested.		X

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	Explanation:	Not Met	Met
(2) State takes initiative to complete BCAs with minimal technical assistance from FEMA or FEMA contractors, (Calls to the BCA helpline for technical interpretation are encouraged). Additional assistance may be required, but instances should be few in number and do not automatically demonstrate the state does not have the capability to effectively manage mitigation grant programs, OR state has an established process for identifying and requesting assistance.	During the past three years, Washington State has extended its commitment to submitting only eligible grant applications by thoroughly training local jurisdictions in benefit-cost analyses (BCA) methodologies. Washington provides technical assistance to assist grant applicants, and has greatly improved the capabilities of the State's local jurisdictions. As such, nearly all of the grant applications contain accurate BCAs that were developed by the applicant and confirmed by the State.		X
(3) Is all relevant benefit cost information submitted with original project applications; are all values used in BCAs documented in the project applications and obtained from credible sources?	This information is required in the State's thorough grant application in order for the State to determine that the project and the application are eligible to submit to FEMA. There are no issues or concerns with the information provided by Washington.		X
(4) BCAs that are submitted adhere to FEMA's applicable statutes, policies, and methodologies.	Yes, the BCAs that FEMA receives with the applications are compliant with FEMAs requirements and methodologies.		X
(C) Submitting complete and accurate quarterly progress and financial reports on time;			
(1) State submits complete quarterly progress reports as required by CFR 13.40 (b)(2)(i) and (ii) and/or 44CFR Part 206.438(c) under HMGP.	The State has a long-standing history of submitting quarterly reports timely, and that thoroughly discuss the project and its progress.		X
(2) State submits complete quarterly progress reports by the agreed upon due date.	See Comment C1.		X
(3) State submits complete quarterly financial reports.	The State provides the required financial reports within the deadline set every quarter without issue.		X
(4) State submits complete quarterly financial reports by the agreed upon due date.	See Comment C4		X
(D) Completing all grant projects within established performance periods, including financial reconciliation.			
(1) State monitors the sub-grantee's performance against the identified project milestones and completion date.	Washington does an excellent job of maintaining oversight and periodic site visits to review and document project progress.		X

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	Explanation:	Not Met	Met
(2) State completed all post-award activities within 90 days from the performance period end date.	Yes. This State ensures that all post-award activities are complete within 90 days from performance period end date. No issues.		X

FEMA Regional Director or Mitigation Division Director: Mark R. Carey

Date: Oct. 19, 2004

Date: May 2005

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V. Assessment of Mitigation Actions

Requirement 44 CFR §201.5(b)(2)(iv): Document the system and strategy by which the State will conduct an assessment of the completed mitigation actions and include a record of the effectiveness (actual cost avoidance) of each mitigation action.

Historically, the EMD Mitigation and Recovery section assessed mitigation actions with loss avoidance studies when manpower and funding were available, or relied upon FEMA to provide loss avoidance studies for projects. FEMA has provided a number of such studies, including, but not limited to the following, which are some of the most recent studies:

- "Evaluating Losses Avoided Through Hazard Mitigation." *City of Centralia, Washington.* (2008)
- "Measuring Success Hazard Mitigation." Rainier Manor Mobile Home Park, Sumner, Washington. (2007)
- "Evaluating Losses Avoided Through Hazard Mitigation." *City of Snoqualmie, Washington.* (2007)

However, new to the 2010 update is Tab 9, which encompasses the state's first attempt at a Loss Avoidance Study (LAS). During the 2007-2010 timeframe, the section developed a database for utilization in capturing the data necessary to complete the LAS. During this first attempt, it was decided that only 24 properties would be the subject of the initial study. This was done to determine the methodologies to be used within the LAS, and to determine whether complete data was available to conduct the LAS, or if additional data was needed.

During the course of development of the study region, Tetra-Tech, Inc., was in the process of completing the Hazard Mitigation Plan for the City of Snoqualmie. Their submission of the Snoqualmie plan coincided with the development of the LAS study, and review of the Snoqualmie plan by the Mitigation Strategist indicated that during Tetra-Tech's planning efforts, the GIS Analyst for Tetra-Tech had gathered multiple data sources of information which would provide useful information within the LAS. In order to test the methodology devised by the State Mitigation Strategist, Rob Flaner, Senior Planner and Ed Whitford, GIS Analyst agreed to conduct the LAS on 11 flooded properties for which Mitigation Grant Funds were provided (elevation project) within the Snoqualmie area.

In addition to the Snoqualmie project, the state's GIS Analyst also conducted a number of additional runs for both seismic retrofits and flooded properties. A detailed description of the methodology used by both analysts is contained within the *Loss Avoidance Study*, Tab 9.

During the time period covering the next planing cycle of 2010-2013, Mitigation Staff will continue to improve the process of conducting Loss Avoidance Studies in the following manner:

As project applications are received, information will be gathered from the applications and placed into the same database utilized for the 2010 LAS study. As projects are completed, that information will also be uploaded into the database, capturing the final project information, e.g., final elevation certificates, final costs associated with each project, etc. Previously, the basic information was not captured at the onset, but at the time the LAS was completed.

Once this data has been captured, analysis will be conducted utilizing GIS and/or HAZUS, and possibly FEMA's BCA moduel.

Determination with respect to the type of data to be utiliized for the acutal analysis will be made at the time the analysis is conducted. The intent is to utilize the Best Available Science when conducting the analysis to determine the Return on Investment (ROI).

As disaster incidents evolve, the State is constantly capturing relevant data, such as flood depths, wind speeds, seismic information, etc. That information is utilized not only within the Loss Avoidance Study, but also in the risk analysis conducted statewide. Working with the team of subject matter experts identified within Tab 2 – *Planning Process* – the most viable current data will be utilized to conduct the analysis.

Additionally, Washington State is actively involved in FEMA's RiskMap project. It may be determined at the time the analysis is to be conducted that if a jurisdictions' flood information is near compeltion, it may be more beneficial to await the release of the new data to determine effectiveness of a project, rather than utilizing older data. Likewise, the State is currently conducting seismic studies at various locations statewide. If studies are forthcoming within a relatively short period of time which will allow for more viable analysis, it may be determined that new ShakeMaps should be utilized, rather than completing a Loss Avoidance Study immediately after the completion of a project.

It is the intent of the state to complete a LAS for the majority of all completed projects prior to the completion of the 2013 plan update. The intent is to review the project database no less than every six months to determine whether projects have been completed, and once completed, to conduct the analysis within a relatively short period of time in accordance with the process indicated above.

VI. Effective Use of Available Mitigation Funding

Requirement 44 CFR §201.5(b)(3): Demonstrate that the State effectively uses existing mitigation programs to achieve its mitigation goals.

The State of Washington effectively uses mitigation programs to achieve its mitigation goals. Among the primary mitigation programs of the state are the federally funded, state-administered hazard mitigation programs (HMGP, PDM, and FMA), the state's FCAAP and GMA. In addition there are the relatively new federally funded, state-administered hazard mitigation programs Repetitive Flood Claims (RFC) and Severe Repetitive Loss (SRL). Each of these programs has established its own mitigation goals, strategies and/or objectives. The state mitigation goals from the *Mitigation Strategy*, Tab 6, SHMP can be reviewed below.

State Mitigation Goals and Objectives

Goal 1: Protect Life.
- Objective (Obj.) 1.1 – Improve systems that provide warning and emergency communications.
- Obj. 1.2 – Develop or amend laws so they effectively address hazard mitigation.
- Obj. 1.3 – Reduce the impacts of hazards on vulnerable populations.
- Obj. 1.4 – Strengthen state and local building code enforcement.
- Obj. 1.5 – Train emergency responders.

Goal 2: Protect Property.
- Obj. 2.1 – Protect assets, particularly critical assets.
- Obj. 2.2 – Protect and preserve facility contents.
- Obj. 2.3 – Reduce repetitive and severe repetitive losses, including those caused by flooding.

Goal 3: Promote a Sustainable Economy.
- Obj. 3.1 – Provide incentives for mitigation initiatives.
- Obj. 3.2 – Continue critical business operations.
- Obj. 3.3 – Form partnerships to leverage and share resources.

Goal 4: Protect the Environment.
- Obj. 4.1 – Develop hazard mitigation policies that protect and improve the environment.

Goal 5: Increase Public Preparedness for Disasters.
- Obj. 5.1 – Improve the understanding of natural hazards and the risk they pose.
- Obj. 5.2 – Improve hazard information, including databases and maps.
- Obj. 5.3 – Improve public knowledge of hazards and protective measures so individuals appropriately respond during hazard events.
- Obj. 5.4 – Develop new policies to enhance hazard mitigation initiatives.

The state-administered hazard mitigation programs require applicants to develop projects that support the hazard mitigation goals and objectives of the state's hazard mitigation strategy. Applicants seeking funds from the HMGP, PDM, FMA, RFC and SRL are asked to address the state and federal criteria, developed primarily from the goals and objectives of the 2007 state mitigation strategy, listed on pages 6-7 above. The HMGP and PDM programs are specifically linked with objectives 1.3, 2.1-2.3, 3.1, 5.2 and 5.3. These objectives focus primarily on protecting life and property while promoting mitigation and preparedness. The FMA, RFC and SRL are primarily focused on objectives 1.3, 2.1-2.3 and 3.1 which deal primarily with protecting life and property with RFC and SRL focusing very specifically on objective 2.3 to reduce repetitive loss. Through ensuring that all mitigation projects are acceptable (see section III above) and assessing the projects for cost effectiveness (see section IV above), the projects are shown to be effective in achieving the state's goals.

Washington emphasizes effectiveness in the hazard mitigation programs it administers. The state does this, in part, by marketing the programs to all eligible applicants and then working with them to develop the best possible projects; a description of the process of soliciting applications and working with applicants to develop their documents appears in section III of this plan. For the HMGP, the state typically receives applications that in some instances request up to 10 times the amount of available funding. This allows the state to select and recommend for funding only the best and most cost-effective projects.

Below are tables which demonstrate the state's effective use of available federally funded hazard mitigation grant programs.

Table 1 demonstrates effective use of HMGP funds. The Total column shows the total HMGP award amount, which includes the federal, state and local shares, for the disasters for which the program was available. The Spent column shows actual dollars spent on that disaster under the HMGP. The Requested column shows, through letters of intent or actual applications, funding sought by potential applicants; figures listed are for disasters in which data was readily available. From disaster 1100 (February 1996 floods) through disaster 1817 (January 2009 floods), approved projects include approximately, 52 hazard mitigation plans, 41 acquisition projects (each project could include more than one structure), 33 elevation projects, 38 seismic retrofit projects, and 44 other projects that fall into other categories including minor localized flood reduction and infrastructure retrofitting.

Table 2 demonstrates effective use of FMA funds. Typically, due to limited funding available in any one year, project funds are used for a single project, such as a group of acquisitions or elevations proposed by a local jurisdiction. The same is true for planning funds. From 1996 through 2009, FMA funds have gone toward five acquisition projects, five elevations, and six flood mitigation plans.

Table 3 demonstrates effective use of funds made available through the PDM. In program years 2002 and 2003, the state made all its planning money available to local

jurisdictions developing local hazard mitigation plans. From 2002 through 2009, PDM funds have gone toward 29 hazard mitigation plans, three acquisitions, two elevations, eight seismic retrofits, and eight other projects that fall into other categories including minor localized flood reduction and infrastructure retrofitting.

Table 1. Hazard Mitigation Grant Program Since 1989 – Updated May 2010

Date	Type	Disaster #	Federal Share	State Match	Local Match	Total	Spent*	Requested**
Apr-89	Floods	FEMA-822	$ 200,840	$ 100,420	$ 706,203	$ 1,007,463	$1,011,852	$ 401,680
Jan-90	Floods	FEMA-852	$ 1,320,360	$ 660,180	$ 660,180	$ 2,640,720	$2,640,720	$ 4,238,389
Nov-90	Floods	FEMA-883	$ 3,221,872	$ 1,610,936	$ 1,610,936	$ 6,443,744	$7,096,387	$ 7,073,377
Dec-90	Floods/Storms	FEMA-896	$ 193,000	$ 96,500	$ 253,600	$ 543,100	$543,100	$ 543,100
Oct-91	Fires	FEMA-922	$ 70,616	$ -	$ 70,616	$ 141,232	$141,232	$ 141,232
Jan-93	Windstorm	FEMA-981	$ 843,032	$ 421,516	$ 2,066,985	$ 3,331,533	$3,331,533	$ 3,331,533
Aug-94	El Nino/Salmon	FEMA-1037	$ 866,700	$ 144,450	$ 144,450	$ 1,155,600	$1,155,600	$ 1,155,600
Nov-95	Floods	FEMA-1079	$ 4,863,497	$ 868,483	$ 868,483	$ 6,600,463	$6,600,463	$ 50,189,864
Feb-96	Floods	FEMA-1100	$ 14,900,229	$ 2,483,372	$ 2,483,372	$ 19,866,973	$19,883,305	$ 46,122,755
Nov-96	Ice Storm	FEMA-1152	$ 1,200,000	$ 200,000	$ 200,000	$ 1,600,000	$1,706,373	$ 1,600,000
Dec-96	Winter storms	FEMA-1159	$ 11,000,109	$ 1,833,406	$ 1,833,406	$ 14,666,921	$15,543,535	$ 56,764,903
Mar-97	Floods	FEMA-1172	$ 964,914	$ 160,819	$ 160,819	$ 1,286,552	$1,286,552	$ 6,902,914
Jun-97	Floods	FEMA-1182	$ 74,940	$ 12,400	$ 12,400	$ 99,740	$99,200	$ 99,200
Oct-98	Floods	FEMA-1252	$ 1,106,899	$ 184,483	$ 184,483	$ 1,475,865	$1,475,865	$ 5,573,335
Oct-98	Landslide	FEMA-1255	$ 5,051,948	$ 841,991	$ 841,991	$ 6,735,930	$6,735,931	$ 22,347,870
Mar-01	Earthquake	FEMA-1361	$ 19,591,125	$ 3,265,188	$ 3,265,188	$ 26,121,501	$25,144,643	$ 319,511,577
Oct-03	Floods	FEMA-1499	$ 741,957	$ 129,033	$ 118,286	$ 989,276	$1,010,462	$ 14,700,000
Feb-06	Winter Storm	FEMA-1641	$ 1,094,250	$ 182,375	$ 182,375	$ 1,459,000	$452,481	$ 5,755,930
Nov-06	Floods/Storms	FEMA-1671	$ 7,129,755	$ 1,238,492	$ 1,138,093	$ 9,506,340	$2,328,547	$ 115,403,956
Dec-06	Windstorm	FEMA-1682	$ 5,773,105	$ 1,012,264	$ 912,103	$ 7,697,473	$2,816,026	$ 53,394,616
Dec-07	Floods	FEMA-1734	$ 11,976,387	$ 1,996,065	$ 1,996,064	$ 15,968,516	$2,926,084	$ 74,397,382
Jan-09	Floods/Storms***	FEMA-1817	$ 10,797,058	$ 1,799,510	$ 1,799,509	$ 14,396,077	$236,061	$ 124,065,279
Dec-08	Winterstorms***	FEMA-1825	$ 5,131,637	$ 855,273	$ 855,273	$ 6,842,183	$0	-
Totals			$ 108,114,230	$ 20,097,156	$ 22,364,815	$ 150,576,202	$104,165,952	$ 913,714,492
Cost Shares			71.80%	13.35%	14.85%	100%		

* -- For those disasters whose amount spent exceeds the amount available, the applicant paid the difference

** -- Column shows requested amounts through letters of intent or applications for disasters whose records are readily available.

*** -- The final DR 1817 funding amounts have not been officially locked in; The requested amount total for 1817 includes both 1817 and 1825 since the application process for both disasters ran concurrently.

Table 2. Flood Mitigation Assistance Program since 1996			
Year	Federal	Local	Total
1996/97 Planning	$33,041	$11,014	$44,055
1999 Planning	$18,680	$6,200	$24,880
1999 Project	$242,130	$80,710	$322,840
2000 Planning	$21,321	$7,107	$28,428
2000 Project	$181,005	$60,335	$241,340
2001 Project	$161,067	$53,689	$214,756
2002 Project	$126,390	$42,130	$168,520
2003/04 Planning	$66,100	$26,168	$92,268
2003/04 Project	$54,614	$18,205	$72,819
2006 Project	$189,900	$83,220	$273,120
2007 Planning	$20,800	$6,973	$27,773
2007 Project	$461,250	$153,750	$615,000
2009 Project	$227,915	$75,972	$303,887
Totals	$1,804,213	$625,473	$2,429,686

Table 3. Pre-Disaster Mitigation Program			
Year	Federal	Local	Total
2002 Planning	$381,623	$127,208	$508,830
2003 Planning	$206,028	$68,676	$274,703
2003 PDMc Planning	$219,554	$73,184	$292,739
2003 PDMc Project	$671,963	$223,988	$895,950
2005 PDMc Planning	$1,052,931	$351,044	$1,403,976
2005 PDMc Project	$7,429,641	$3,684,939	$11,123,330
2006 PDMc Planning	$56,250	$18,750	$75,000
2006 PDMc Project	$56,250	$18,750	$75,000
2007 PDMc Planning	$41,250	$13,750	$55,000
2007 PDMc Project	$2,283,680	$2,533,088	$4,816,768
2008 PDMc Planning	$75,000	$25,000	$100,000
2008 PDMc Project	$774,965	$258,322	$1,033,287
2008 L-PDM Planning	$229,800	$76,600	$306,400
2008 L-PDM Project	$1,136,186	$369,729	$1,505,915
2009 PDMc Planning	$369,252	$123,085	$492,337
Totals	$14,984,373	$7,966,113	$22,959,235

The Growth Management Act (GMA), Shoreline Management Act (SMA) and Flood Control Assistance Account Program (FCAAP) are also examples of the state's effective use of mitigation programs to achieve the mitigation goals listed in the *Mitigation Strategy*, Tab 6, SHMP. See section II of this plan for more complete descriptions of these programs and the funds budgeted for the 2007-2009 biennium. Refer to the state's goals and objectives listed at the beginning of this section when reviewing the objectives delineated below which each program endeavors to achieve.

The GMA's primary purpose related to natural hazard mitigation is to identify and protect the functions and values of critical areas. In so doing, the GMA is specifically linked to objectives 1.2., 1.3, 2.1, 2.3, and 4.1. By requiring cities and counties to identify critical areas and establish regulations to protect and limit development in those areas, the GMA strives to protect life, property and the environment. Many local ordinances originally were prepared in the 1990s. Beginning in 2004, the state legislature created minimum standards for review and compliance for cities and counties to review and update their comprehensive plans, development regulations and critical areas on a 7-year cycle. While progress is being made in updating these plans and regulations, the rate of completion is behind the schedule required by state law as of January 2010. See below for information from the Dept of Commerce — Growth Management Service's website current as of January 2010 indicating the status of the update process by plan and year.

To date, the number of jurisdictions that have completed, or partially completed, the Growth Management Act update are as follows:

Percentage of all jurisdictions with a December 1, 2004 due date:

2004 Update	Comprehensive Plan Updated	Development Regulations Updated	Critical Areas Ordinance Updated	**Update Process Complete**
Number	117	107	108	**103**
Percentage	100%	91%	92%	**88%**

Percentage of all jurisdictions with a December 1, 2005 due date:

2005 Update	Comprehensive Plan Updated	Development Regulations Updated	Critical Areas Ordinance Updated	**Update Process Complete**
Number	23	20	24	**21**
Percentage	85%*	74%*	69%	**60%**

Percentage of all jurisdictions with a December 1, 2006 due date:

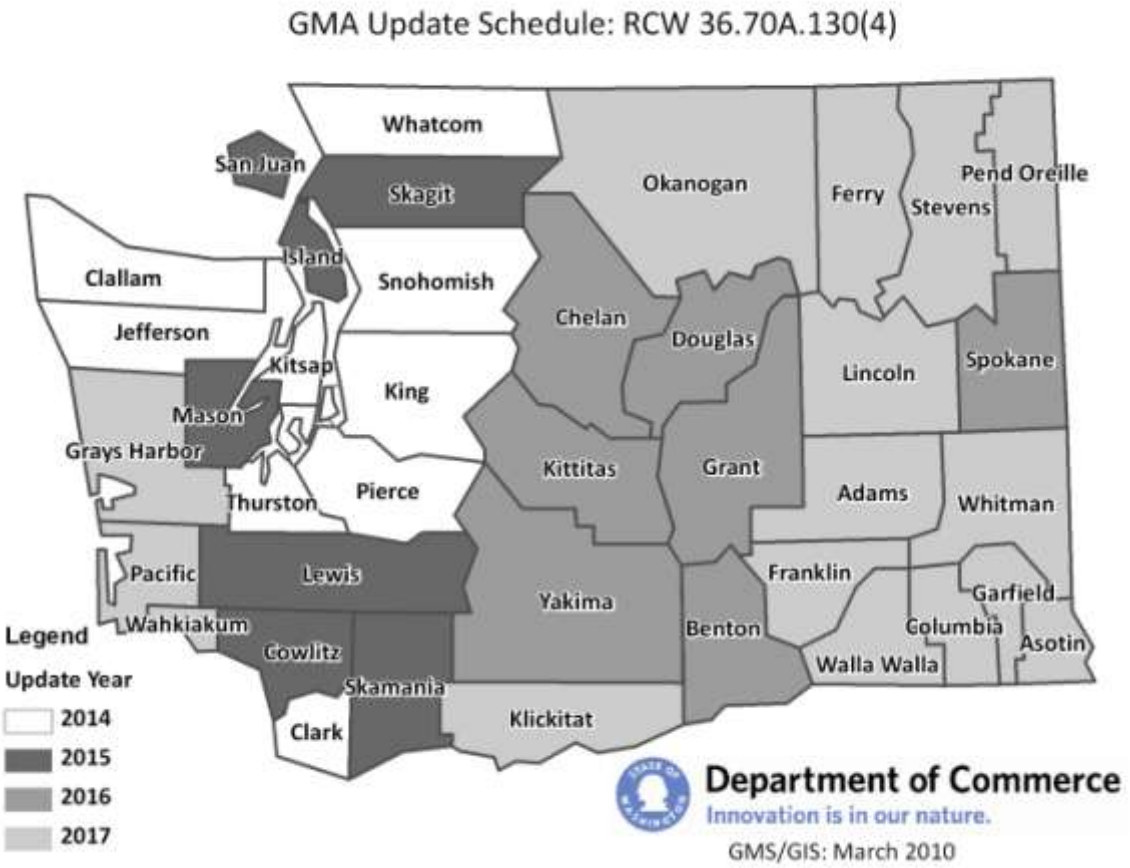
2006 Update	Comprehensive Plan Updated	Development Regulations Updated	Critical Areas Ordinance Updated	**Update Process Complete**
Number	39	31	26	**17**
Percentage	57%	45%	38%	**25%**

Percentage of all jurisdictions with a December 1, 2007 due date:

2007 Update	Comprehensive Plan Updated	Development Regulations Updated	Critical Areas Ordinance Updated	**Update Process Complete**
Number	10	7	20	**13**
Percentage	29%*	20%*	27%	**37%**

**This percentage excludes partially planning jurisdictions.* Updated January 2010. Source: Dept of Commerce: http://www.commerce.wa.gov/site/1282/default.aspx

The below graphic demonstrates the next update phase for the Growth Management Act.



The SMA's regulations cover the use and protection of and access to shoreline resources. It primarily supports objectives 1.2 and 4.1 of the Mitigation Strategy. Prior to December 2003 when the state adopted new regulations requiring all communities to update their SMPs by 2014, many cities and counties had not updated their plans since they first adopted them in the 1970s indicating a limited effectiveness of the program. However, since 2003, the Department of Ecology has provided over $10 million in grant funding for local jurisdictions to update their SMPs. Funding levels are based on a variety of factors, including miles of shoreline, population, and area. This new regulation and increased funding demonstrates the state's commitment to this program and its objectives.

The FCAAP's purpose is to protect human life and property from flood related incidents. In so doing, it supports objectives 1.2, 1.3, 2.3, 3.1 and 4.1 of the Mitigation Strategy. Despite struggling for funding, communities have continued to make floodplain

management a priority thus ensuring the success of the program in meeting its objectives. Local governments have exceeded the minimum requirements established by NFIP regulations with numerous innovations in the field of floodplain management, including but not limited to: higher freeboard standards (Everett, Pierce and Chelan County); prohibiting fill for structural support of residential buildings in floodplains (Skagit and King Counties); providing storage to compensate for filling floodplains (numerous localities); prohibiting new residential structures in the floodplain (Thurston County); and exceeding federal standards for floodways (Pierce County) (see *Floodplain Management in the State of Washington: A Status Report as of February 2004* for additional examples). In addition, a review of the Table below will show a direct correlation between those counties identified by the state as most at risk for flooding and the Department of Ecology's disbursement of FCAAP funds for floodplain management and flood hazard reduction indicating program funds are being put to their most effective use (the table below can also be reviewed in *Risk Assessment*, Tab 5, SHMP).

In addition, the Department of Ecology is a full mapping partner with FEMA in their Map Modernization program in an effort to more accurately identify flood hazard areas for local governments. From 2004 – 2009, Ecology participated in Map Modernization projects in 18 counties covering 220 communities utilizing $2.7 million in FEMA funds and $1.3 million in FCAAP funds in support of mapping updates.

Table 4. Comparison of Jurisdictions Most At Risk to Flood and Flood-Related Investments

2010 State Mitigation Plan	Map Mod	FCAAP 1985 – 2009	
Jurisdictions Most at Risk	Start Date	Rank SHMP	Funding
1. Grays Harbor County	2006	5	$2,115,000
2. King County	2005	3	$4,337,000
3. Lewis County	2005	1	$1,570,000
4. Snohomish County	2006	1	$3,568,000
5. Skagit County	2003	2	$3,724,000
6. Pierce County	2003	4	$4,760,000
7. Thurston County	2006	6	$1,383,000
8. Cowlitz County	2006	7	$995,200
9. Whatcom County	2003	6	$2,573,000
10. Clark County	2003	8	$985,000

Source: Washington Department of Ecology

Repetitive Flood Claims and Severe Repetitive Loss Programs:

The state did not utilize RFC funds available in FY06 through FY09 because it did not get applications from any eligible jurisdictions despite standard solicitation of applications in the state's documented procedures for all FEMA grant programs (Tab 3, *Coordination of Local Planning* of this plan).

As for the SRL program, the state plans to manage this program similarly to the other grant programs it currently manages with the addition of directed contact via phone and email to those jurisdictions that have SRL properties to ensure they understand the new program requirements. Furthermore, the State EMD has scheduled a FEMA-led SRL training session in July 2010 for State and Local staff. This should provide the in depth training required to successfully execute the SRL program. Specific reference to the SRL properties in the state will be made in the Plan and will be made available to the applicable jurisdictions. The State will revise its mitigation strategy and goals as necessary to meet the new program requirements as set forth under 44 CFR 201.4.c.3.v in an amendment to its current Plan in any case where it is found to fall short of requirements.

VII. Commitment to a Comprehensive Mitigation Program

Requirement 44 CFR §201.5(b)(4)(i-iv): Demonstrate that the State is committed to a comprehensive mitigation program, which might include any of the following:

Requirement 44 CFR §201.5(b)(4)(i): A commitment to support local mitigation planning by providing workshops and training, State planning grants, or coordinated capability development of local officials, including Emergency Management and Floodplain Management certifications.

As described in more detail in the *Coordination of Local Mitigation Planning*, Tab 3, SHMP, the Mitigation and Recovery Section of the State EMD is committed to supporting local hazard mitigation planning through an extensive network of assistance.

As previous locals' plans continued to mature and plans previously completed in many communities were in the update phase, and Mitigation and Recovery Section staff provided several different means of training and technical assistance to assist with plan development. The method of conducting the plan review prior to submission to FEMA was also enhanced during this planning cycle.

The level of assistance requested and provided by Mitigation and Recovery Section staff varied by community and level of experience and knowledge of local staff, as well as by complexity of issues and numbers of jurisdictions involved in a particular plan.

Particular emphasis was placed on technical assistance during this planning cycle for a number of reasons, the first being the large number of plans anticipated for renewal between the 2008-2010 timeframe based on FEMA's five year update cycle, as follows:

- 2008 - seven plans were due;
- 2009 – 31 plans were due;
- 2010 - 20 plans are due.

As of January 31, 2010, the actual breakdown of plan development is as follows:

- 25 +/- plans currently in the update cycle (some have gone through state and/or FEMA review and are making necessary changes);
- 36 jurisdictions have received grants for plan updates or development (represents FY07-FY10); and
- 25 +/- new plans are currently under development

(Note: In some cases, these numbers are represented in more than one category, e.g., received a *grant* for a *new* plan – included in both categories.)

Also a significant issue which directly impacted the update and development process throughout the state is the condition of the economy. As of 2009, 19 of 39 counties in Washington were considered *distressed*, meaning that each of the counties maintained a three-year average unemployment rate equal to or greater than 120% of the statewide unemployment rate. Because of this, many jurisdictions were required to reduce their work force and limit the amount of travel for their employees. This left a large void within many jurisdictions that lost personnel who, in many cases, were the people who had previously developed the mitigation plan.

Another contributing factor to the decision to enhance technical assistance was the fact that FEMA requirements had changed since the original plans were developed. Based on the number of local plans between 2007-2010 which were up for renewal, and the number currently in process, it was determined that additional training would be required to provide the local planners with the information necessary to complete the plans. However, this effort was further complicated by the fact that because of the state of the economy in many jurisdictions, travel was restricted, and personnel were not able to travel to receive the training.

In an attempt to pool resources and eliminate additional travel, it was determined that another approach would be to combine meetings. Therefore, in an effort to administer additional technical assistance to jurisdictions that would not otherwise have been able to attend training, the Mitigation Strategist attended meetings held in conjunction with other events which are well attended by representatives from across the state: the

Partners in Preparedness Conference and the annual SERC/TERC/LEPC conference held in Eastern Washington.

Both of these conferences provided an opportunity for many jurisdictions to gain one-on-one assistance during their plan development, something many jurisdictions would not have been able to otherwise gain had the meetings not been paired together. For a few jurisdictions whose economy had been severely impacted, the State was able to provide training funds to assist in covering the cost for the locals to attend training. In addition, an extensive amount of one-on-one technical assistance was also provided via telephone and web-based meetings, as well as several workshops, and many on-site technical assistance sessions.

During this plan update cycle, the State Hazard Mitigation Strategist provided the technical assistance, which, as indicated, was administered in various methods and covered many different aspects of planning.

Methods of Delivering Technical Assistance:

- site visits – one-on-one or planning teams
- workshops
- attendance at kick-off meetings
- via phone and conference calls
- web-based meetings
- emails
- written correspondence
- classroom setting
- attendance at public meetings
- samples and templates

Areas in which Technical Assistance was Provided (non-inclusive but most common areas where assistance was provided):

- update versus new plan – differences and what is needed
- kick-off meetings to detail process involved
- public meetings – what fulfills this requirement
- meeting with local planning teams to assist with issue resolution
- mitigation strategy development
- gaining public input and participation
- risk analysis
- capabilities assessment
- plan layout
- data gathering - sources
- HAZUS-MH development
- Benefit-Cost Analysis (BCA) development
- planning process
- planning team development – who should be involved

- NFIP requirements
- Repetitive/Severe Repetitive Loss Properties
- funding sources
- coordination with local planning mechanisms
- inclusion of local jurisdictions, special purpose districts – level of involvement/add-on
- review of plan drafts while under development (to make certain any issues the jurisdiction was experiencing were being handled immediately rather than waiting until the plan was completed)
- GIS maps for jurisdictions that do not have GIS capabilities (provided by Tetra Tech - Ed Whitford, and Military Department GIS - Cathy Walker).

Requests for Proposals - Bidding Process for Contractor Selection:

- assistance with development of the scope of work for contract bids (some jurisdictions require engineering studies for projects as part of their contracts)
- Review of bids to determine thoroughness and level of services provided (e.g., were all requirements of plan development included?)
- selection process for contractors – assisted with the creation of questions to ask which would indicate level of experience and knowledge base of contractors

Samples/documentation provided to jurisdiction at onset of planning phase:

At the beginning of the plan update or development, the Mitigation Strategist provided templates and information to each jurisdiction which would assist in the process. Providing samples of previously-approved annexes, plans, templates, etc., proved to be very effective for many jurisdictions, especially those who were new to planning. Below are some of the examples provided to the planners:

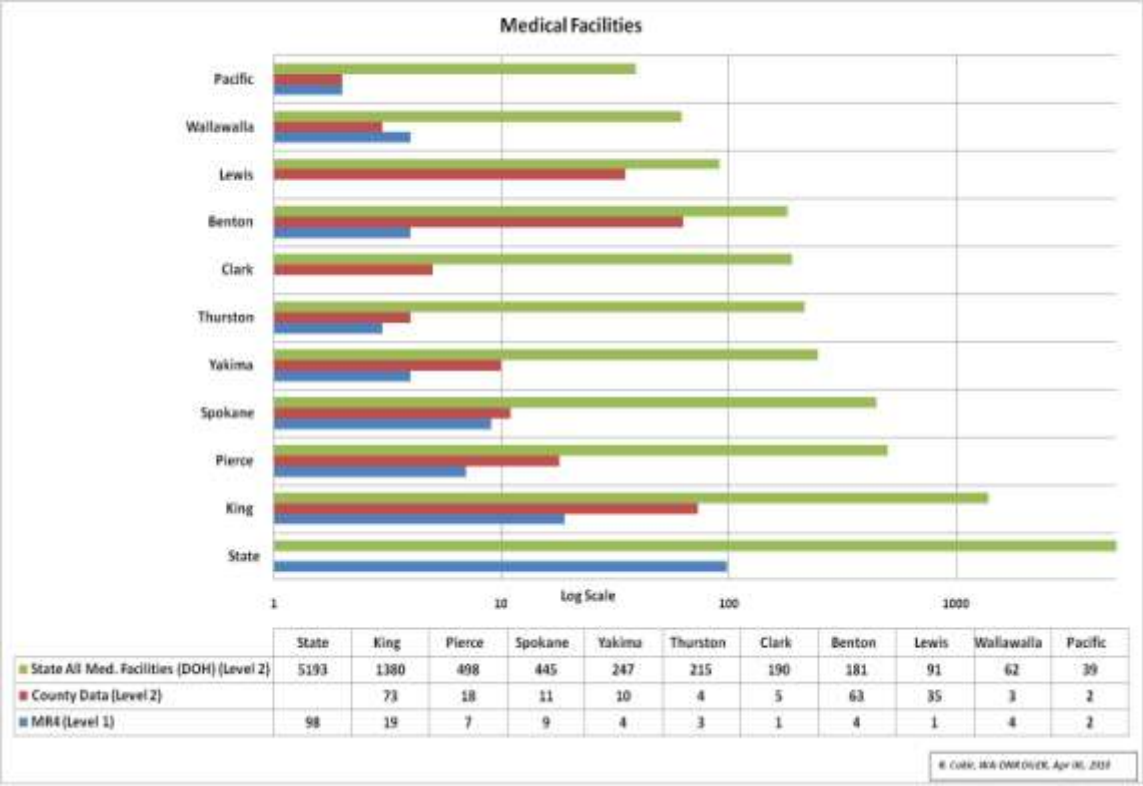
- Crosswalk (new requirement by the state that locals must complete crosswalk and submit along with plan to the state – since this policy was enacted, level of plan accuracy increased dramatically)
- Planning Guidance
- Matrix of Change for Plan Updates
- Community add-on language
- Risk analysis – samples of various ways in which a risk analysis can be conducted
- STAPLEE worksheets
- Special Purpose District Annexes (fire, hospital, school district, water district)
- Resolution for Adoption
- Templates for information gathering (Tetra Tech provided these to the state and has authorized their dissemination to local jurisdictions to assist with plan development for regional and local annexes)
- NFIP guidelines/requirements (provided to us from FEMA Region X)
- Public Meeting Notice
- Newspaper Ads announcing community meetings

In addition to the samples provided, Mitigation and Recovery Section Staff also provided several workshops and training events during this plan update cycle, to include:

Training and Workshops:
BCA (2 classes; 1 in Everett; 1 at Camp Murray) June 2009 (40 students)
G318 Mitigation Planning Training January 2009 (36 students)
Risk Analysis Class provided June 2009 and February 2010 (61 students)
Technical Assistance Workshops September and November 2009 (30 jurisdictions in attendance – several jurisdictions sent entire planning team)
HAZUS-MH training provided through JFO February 2008, April, May 2009 (27 students)
HAZUS-MH training provided by EMD July 2009, February 2010 (29 students)
HAZUS L313 & L296 by EMI at Camp Murray March 2010 (33 students)

In total, during the 2008-2010 timeframe, EMD either provided or coordinated training for a total of 216 students involved in mitigation planning efforts in a classroom setting. Additionally, 40 students attended BCA training for use not only to enhance grant applications, but also mitigation strategy development, as many jurisdictions are completing BCA evaluations on their various structural projects for prioritization of mitigation actions.

Datasets for Risk Analysis:
During the 2010 update cycle, an emphasis has been placed on the use of GIS and HAZUS to assist jurisdictions conduct a more viable risk assessment and enable more accurate modeling studies in Washington. In an effort to enhance this initiative, the Washington State Military Department Emergency Management Division (EMD) initiated the Washington State HAZUS-MH (Multi Hazard) Database Enhancement Project which was subcontracted to the Washington State Department of Natural Resources (WA-DNR), Division of Geology and Earth Resources (DGER), and funded through a HMGP grant. The data gathered during this project has enhanced information which jurisdictions can utilize during their risk assessment rather than relying on the HAZUS-MH default data. As an example, Figure 1 below demonstrates the variables in data for medical facilities:



	State	King	Pierce	Spokane	Yakima	Thurston	Clark	Benton	Lewis	Wallawalla	Pacific
State All Med. Facilities (DOH) (Level 2)	5193	1380	498	445	247	215	190	181	91	62	39
County Data (Level 2)		73	18	11	10	4	5	63	35	3	2
MR4 (Level 1)	98	19	7	9	4	3	1	4	1	4	2

Figure 1. Medical facilities showing significant improvement after using the statewide DOH data.

A more detailed accounting of the project scope can be found in Tab 11, *Best Practice Section* of the SHMP.

In addition to the above, several other useful datasets were provided to local jurisdictions to advance their use of HAZUS-MH modeling throughout Washington. These datasets include: a soils and liquefaction hazard maps database and a database of USGS ShakeMaps Scenarios for Washington State for HAZUS earthquake modeling, among others. These datasets are openly available to the public for use in HAZUS modeling and can be accessed/downloaded via the WAHUG website at: http://www.usehazus.com/wahug.

WAHUG Users Group:

During the 2007-2010 plan update cycle, the Washington HAZUS User's Group (WAHUG) was reinitiated in late 2008. Due to response to the initiative statewide, the HAZUS Technical Lead for the Washington Military Department was recognized by FEMA as the *HAZUS User for the Year*. A more detailed description of the User's Group can be found in Tab 11, *Best Practices* and Tab 12, *Best Available Science* sections of the SHMP.

In an effort to make the User's Group more effective, and to enhance risk analysis statewide, the State took the lead in providing on-site technical assistance for both GIS and HAZUS to GIS and Emergency Management staff statewide as needed. This technical assistance included general software installation and hands-on instruction for the flood and earthquake models for mitigation planning activities, as well as instruction and assistance understanding the HAZUS reports.

Mitigation Planning User's Group:

During the 2007-2010 plan update cycle, the State Hazard Mitigation Strategist created a Mitigation Planning User's Group, which included representatives from the State, local jurisdictions, private industry and the Washington State Emergency Management Association (WASEMA). The purpose of this group was to establish a mechanism by which issues and difficulties that the local jurisdictions were experiencing could be discussed by those immediately involved in local mitigation planning in an effort to come up with solutions. Many of the individuals who serve as members of the steering committee of the User's Group have experienced the same difficulties. This User's Group also assisted in providing two technical assistance workshops on a trial-run basis to determine their level of effectiveness.

During these workshops, a group of 8 planners (both public and private industry) with a sound working knowledge of mitigation planning, the State's Mitigation Strategist and two FEMA Region X planners provided technical assistance to approximately 30 jurisdictions.

If possible, members of the User's Group were paired with jurisdictions from like-regions so their experience with similar hazards would be beneficial in providing guidance. Also, by placing the planners in the same geographic regions, it made it easier for the planners and User's Group members to contact one another for any follow-up meetings. Members from both the User's Group and the local jurisdictions who attended the workshops voiced very positive feedback with respect to continuing this type of training. It is anticipated that the State, FEMA and the Users Group will continue to conduct these sessions on a quarterly basis during the next plan update cycle.

Grant Awards:
During the time period from April 2007 through December 2009, the Mitigation and Recovery Section provided approximately $2.8 million to help with local plan development in 36 jurisdictions. The Mitigation and Recovery Section provided approximately $3.9 million to help with local plan development since the publication of new federal hazard mitigation planning requirements in February 2002 through March 2007. Funding was provided through the HMGP, PDM and FMA. The state provided half of the non-federal match for HMGP-funded hazard mitigation plans. During the 19 month period of time (May 2007 through December 2009), significantly more funds were awarded during that period when compared to the 5 previous years (60 months), during which time $3.9 million was awarded. This again demonstrates the progressive approach state jurisdictions are taking to continue enhancing their hazard mitigation

plan. The tables on pages 11 and 12 of this section show the planning efforts as a whole, and those being funded by FEMA Hazard Mitigation Assistance Grants.

Technical Assistance for Grants:

During the HMGP application periods for DRs 1734, 1817, and 1825, the Mitigation and Recovery Section staff provided significant technical assistance to local jurisdictions and tribes for both planning and project application development. The staff provided any assistance requested by the subapplicants in order to complete a successful application. This is demonstrated by the fact that all planning applications submitted under those HMGPs were ultimately sent to FEMA and approved for funding. The charts on the following two pages detail various grant activities during the 2005-2009 timeframe.

FEMA HAZARD MITIGATION GRANT ASSISTANCE – TOTAL PROJECT COSTS AWARDED 2005-2009
(Includes Federal, State, and Local Shares)

Jurisdiction	HMGP-1641/ 1671/1682	PDM 05/06	HMGP-1734	PDM/FMA 07/08/09	HMGP-1817	Total Funding	Flooding	Earthquake	Other Hazards	Acquisition	Elevation	Seismic Retrofit	Other Project Types	Total Projects
Washington State	$949,039			$828,317		$1,777,356		X				2		2
Clark		$368,066				$368,066	X						1	1
City of Kalama		$340,000				$340,000	X						1	1
Grays Harbor			$82,500			$82,500	X				1			1
Port Townsend	$858,591		$878,186	$1,026,415		$2,763,192		X				4		4
King	$2,551,581	$1,616,130	$2,519,800	$1,063,265	$2,065,622	$9,816,398	X			5	5		1	11
Issaquah		$522,210			$888,455	$1,410,665	X				1		1	2
Renton				$479,279		$479,279		X				1		1
Seattle	$1,980,000	$713,229				$2,693,229		X				4		4
Snoqualmie	$1,618,586		$951,264		$1,441,605	$4,011,455	X				4			4
West Sound UD	$234,300					$234,300		X				1		1
Centralia			$1,894,706		$485,307	$2,380,013	X			1	1			2
Chehalis, City of			$674,791			$674,791	X			1				1
Chehalis Tribe			$286,236			$286,236	X			1	1			2
Pierce	$3,794,149		$396,442	$554,008	$1,215,523	$5,960,122	X			7				7
Bethel SD			$555,172			$555,172		X				1		1
Eatonville				$452,500		$452,500			X				1	1

FEMA HAZARD MITIGATION GRANT ASSISTANCE – TOTAL PROJECT COSTS AWARDED 2005-2009 (continued)
(Includes Federal, State, and Local Shares)

Jurisdiction	HMGP-1641/ 1671/1682	PDM 05/06	HMGP-1734	PDM/FMA 07/08/09	HMGP-1817	Total Funding	Flooding	Earthquake	Other Hazards	Acquisition	Elevation	Seismic Retrofit	Other project Types	Total Projects
Pacific Lutheran U			$2,526,753			$2,526,753		X				2		2
Sumner	$616,600					$616,600	X	X			1	1		2
Skagit	$147,500		$1,093,168		$111,560	$1,352,228	X	X	X	1		1	1	3
Anacortes		$637,500				$637,500		X				1		1
Concrete					$776,503	$776,503			X	1				1
Hamilton				$873,531		$873,531	X			1				1
Snohomish				$457,187		$457,187	X				1			1
Edmonds		$6,248,395				$6,248,395		X				2		2
Everett				$1,495,909		$1,495,909		X				1		1
City of Snohomish	$747,370					$747,370	X				1			1
Stillaguamish FCD		$175,000				$175,000	X						1	1
Sultan	$278,400					$278,400	X			1				1
Thurston		$1,508,325				$1,508,325	X						1	1
Evergreen State			$1,055,600		$1,456,453	$2,512,053		X				2		2
Whatcom					$450,490	$450,490	X			2				2
Yakima	$160,000					$160,000	X						1	1
TOTALS	$13,936,116	$12,128,855	$12,914,618	$7,230,411	$8,891,518	$55,101,518				21	16	26	9	69

Additionally, the Mitigation and Recovery Section staff hired a Benefit-Cost Analysis (BCA) contractor to review all BCAs submitted with the HMGP project applications for DRs 1817 and 1825. If the reviews found errors in the BCAs, the staff worked with the local jurisdictions to correct the errors and ultimately complete an accurate BCA. As of the date of this plan, FEMA has not found any of the BCAs in the HMGP applications for DRs 1817 and 1825 to be in error.

State Floodplain Management Program

The Washington State Department of Ecology (Ecology) Floodplain Management Program plays an important role in state mitigation with respect to flooding events. Program staff assists communities in administering their local floodplain management programs, make substantial damage determinations after a flood and ensure that communities are in compliance with their local ordinances. In addition, they work to provide assistance to non-participating communities that wish to enter the National Flood Insurance Program (NFIP) and provide technical assistance to participating communities interested in enrolling in the Community Rating System (CRS). Floodplain Management staff provides technical assistance to the Washington State Hazard Mitigation Advisory Team (SHMAT) as well as mitigation staff in administering the mitigation programs and developing a repetitive loss strategy for the state. Floodplain Management staff provides training to local government and emergency management officials on floodplain management and mitigation. Ecology also developed the Floodplain Management Guidebook, which provided additional planning guidance for local jurisdictions to meet FMA planning requirements with respect to NFIP, floodplain management and mitigation planning.

In addition to the above, Ecology supports ongoing updates to existing FEMA floodplain mapping and risk reduction programs. Ecology's Floodplain Management Program has partnered with FEMA under two FEMA programs - Map Modernization and Risk MAP - in support of effective implementation of floodplain regulations and flood hazard reduction. Both of these mapping programs are discussed in detail below.

National Flood Insurance Program (NFIP)

The U.S. Congress established the National Flood Insurance Program (NFIP) with the passage of the National Flood Insurance Act of 1968. NFIP allows property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. Participation in the NFIP is optional, and is based on an agreement between communities and the Federal Government. If a community adopts and enforces a floodplain management ordinance to reduce future flood risk to new construction in floodplains, the Federal Government will make flood insurance available within the community as a financial protection against flood losses. This insurance is designed to provide an insurance alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and their contents caused by floods.

The emphasis of the NFIP floodplain management requirements is directed toward reducing threats to lives and the potential for damages to property in flood-prone areas.

One key component in the Act is the restriction in place which prohibits FEMA from providing flood insurance to any individual unless the community within which the intended insured resides has adopted and enforces floodplain management regulations that meet or exceed the floodplain management criteria established within 44 Code of Federal Regulations (CFR) Part 60, *Criteria for Land Management and Use.*

Authorized by the Act and funded by the National Flood Insurance Fund, the FMA, RFC, and SRL programs are available for mitigation efforts. These funding opportunities are discussed in greater detail earlier in this part of the plan.

Two elements which must be met by all jurisdictions within the local mitigation plan is the issue of Repetitive Loss Properties and Severe Repetitive Loss properties as they relate to floods only. These are defined as:

- *Repetitive Loss Properties*
  A repetitive loss property is one for which two or more losses of at least $1,000 each have been paid by the National Flood Insurance Program (NFIP) over a rolling 10-year period.

- *Severe Repetitive Loss*
  An SRL property is a residential property that is covered under an NFIP flood insurance policy and:

  a) That has at least four NFIP claim payments (including building and contents) over $5,000 each, and the cumulative amount of such claims payments exceeds $20,000; or
  b) For which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

  For both (a) and (b) above, at least two of the referenced claims must have occurred within any 10-year period, and must be greater than 10 days apart.

In addition to providing flood insurance and reducing flood damages through floodplain management regulations, the NFIP identifies and maps the Nation's floodplains. Mapping flood hazards creates broad-based awareness of the flood hazards and provides the data needed for floodplain management programs and to actuarially rate new construction for flood insurance. Recently, this mapping initiative has taken a new step toward providing a more reliable mapping system with the creation of Risk MAP (discussed in greater detail below).

Community Rating System

The National Flood Insurance Program's Community Rating System (CRS) was implemented in 1990 as a voluntary program which recognizes and encourages community floodplain management activities that exceed the minimum NFIP standards.

The National Flood Insurance Reform Act of 1994 codified the Community Rating System in the NFIP.

As a result of CRS, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS:

- Reduce flood losses
- Facilitate accurate insurance rating
- Promote the awareness of flood insurance

The more a jurisdiction does in excess of NFIP standards, the more points they earn. These points are then utilized to establish the jurisdictions CRS class. There are ten CRS classes. Class one (1) requires the most credit points and gives the largest premium reduction; class 10 receives no premium reduction. For CRS participating communities, flood insurance premium rates are discounted in increments of 5%; i.e., a Class 1 community would receive a 45% premium discount, while a Class 9 community would receive a 5% discount, and as indicated above, a Class 10 is not participating in the CRS and receives no discount.

The CRS classes for local communities are based on 18 creditable activities, organized under four categories:

1. Public Information
2. Mapping and Regulations
3. Flood Damage Reduction
4. Flood Preparedness.

Map Modernization Program

The objective to FEMA's Map Modernization Program is to update and modernize maps that predict where major floods are likely to occur. Map Modernization is a cornerstone for helping States and communities to be better prepared for flood disasters. However, presently, not all of Washington State's high hazard areas are being updated. At present, Countywide Digital Flood Hazard Data is available, or in process, for the following Washington Counties:

Adams	Lewis
Clallam	Pierce
Clark	Skagit
Cowlitz	Snohomish
Grant	Spokane
Grays Harbor	Thurston
King	Whatcom
Kitsap	Yakima

Risk MAP (Risk Mapping Assessment and Planning)

The purpose behind FEMA's Risk MAP Strategy is to constantly reduce losses to life and property. Flood mapping is used for risk assessments which are incorporated into mitigation plans where risk reduction measures are identified for future action. Risk MAP will identify, assess, and communicate multi-hazard risks with non-regulatory products and assessments. Washington State Department of Ecology is partnering with FEMA to implement the four fundamental strategies to Risk MAP in Washington State. The four strategies include Identify Risk, Assess Risk, Communicate Risk, and Mitigate Risk. The Risk MAP program further enhances mapping by involving communities during the assessment and planning stages, and guides and encourages communities to communicate risk to their constituents.

The information in the following sections provides statistical data as it relates to Washington's involvement in the NFIP during the 2010 plan update process. Information is always changing, and therefore, as local jurisdiction plans are updated, the most current data should be gathered to meet planning requirements from the Emergency Management Division, Department of Ecology, or FEMA. At present time, the facts below demonstrate the overall importance of the NFIP to the State and demonstrate the level of flooding concern. The information represents the most currently available data as of the dates referenced within each section.

Requirement 44 CFR §201.5(b)(4)(ii): A statewide program of hazard mitigation through the development of legislative initiatives, mitigation councils, formation of public/private partnerships, and/or other executive actions that promote hazard mitigation.

The State of Washington places considerable value on partnerships in emergency management, particularly in the areas of hazard mitigation and damage-reduction. A number of public-private partnerships established in recent years continue to function.

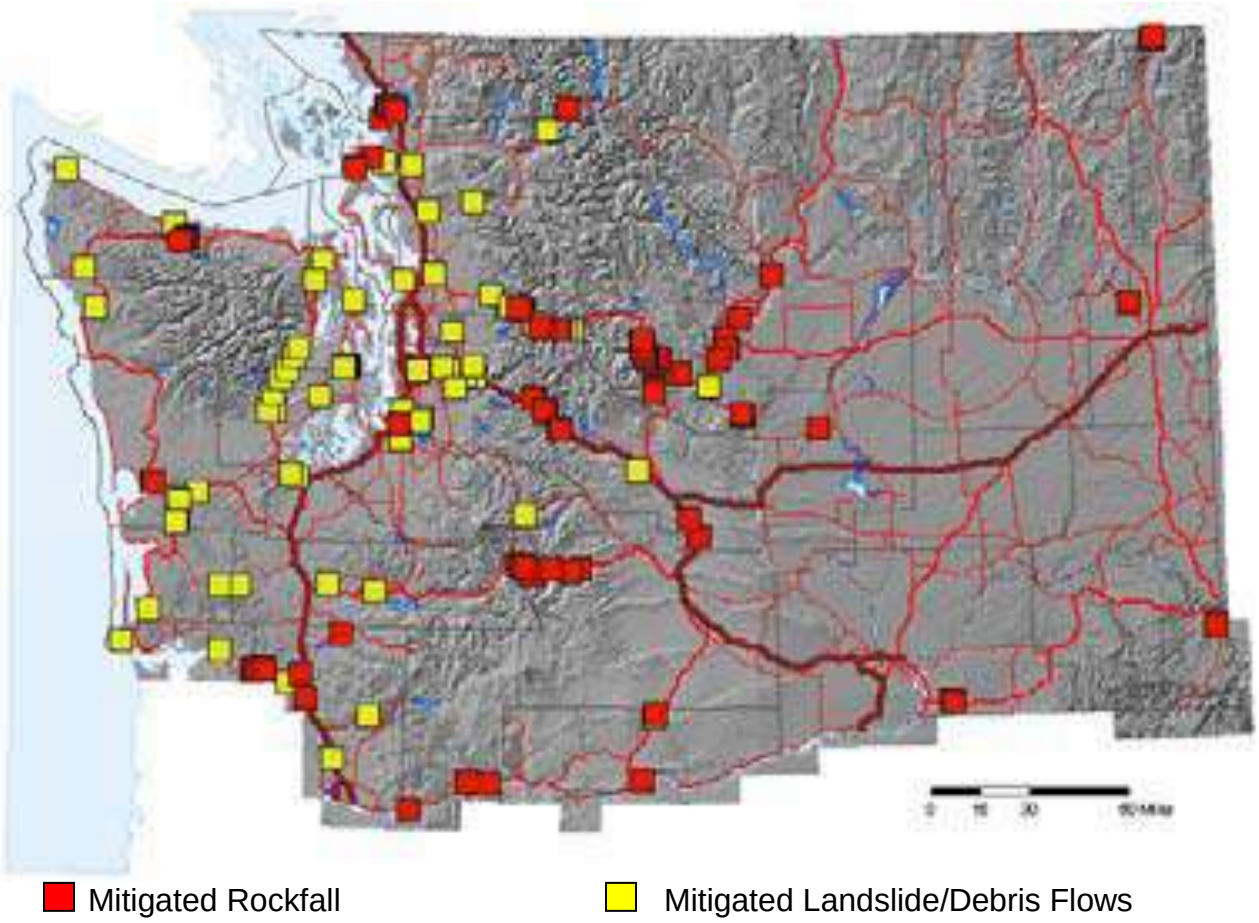
The state is part of the Contingency Planning and Recovery Management Group, a public/private working group established to advance mitigation, preparedness, response and recovery from both private and public sector organization viewpoints. Currently the group is working to create a Disaster Resistant Business toolkit, a step-by-step process to create a business plan that is flexible enough to fit any size or type of business. The kit will provide best practices, low-cost methods and simple steps to not only complete the plan but to exercise it, to train employees on it and to lessen exposures.

EMD launched a website on November 19, 2007, to provide businesses with a roadmap to prepare for and mitigate the effects of all types of emergencies. The website (http://emd.wa.gov/preparedness/prep_business.shtml) is meant to be a one-stop destination to provide user-friendly information to assist businesses in achieving their highest readiness level. Among other things, the site offers a 12-step Comprehensive Business Preparedness and Planning guide; statewide local training, exercise and volunteer program listings; embedded links to related web sites, source documents and

easy-to-use templates that can be customized for any business; and an Industry Standard, Best Practice and Benchmarking section so that businesses can track their progress in relation to established standards within their business sector.

The Washington State Department of Transportation (WSDOT) created the Unstable Slope Management Program in 1995 to proactively address the issue of unstable slopes, including landslides, rock falls, and debris flows, across Washington's 7,048 miles of highway facilities. WSDOT regional offices performed the initial unstable slope identification process resulting in an inventory of over 2,500 sites which were then rated based on numerous risk factors. The program seeks to cost-effectively reduce the risk of moderate to high hazard unstable slopes with long term risk reduction. Between 1995 and 2009, WSDOT spent approximately $165 million stabilizing more than 83 moderate to high-hazard programmed unstable slopes and an additional $208 million on unforeseen emergency slope corrections. The present funding is for $25 million per biennium (projected to 2015) for planned work in the program (not including emergency relief projects). The graphic below shows the completed work in this program.

Mitigated Slopes along State Routes in Washington State



Data source: Unstable Slope Management System (USMS). Date: 12/08/2009

In 2005, the Legislature passed a bill creating the Transportation Partnership Account (TPA). The TPA is a revenue generation and expenditure plan that funds 274 transportation projects across the state over a 16-year period. The revenue comes from a combination of taxes on transportation related items, including gasoline taxes. The expenditure plan allocated a total of $2.98 billion towards projects with a hazard mitigation element, including the seismic retrofit or replacement of existing bridges and structures that are vulnerable to earthquakes. In 2007, the State Department of Transportation began work on the portion of the bridge seismic retrofit program that was allocated $87 million in funds from TPA. This program is focused on strengthening the support columns of bridges in the Central Puget Sound region to make them more resistant to earthquake damage.

The TPA provides $2 billion in funds for the replacement of the Alaskan Way Viaduct (State Route 99). The Alaskan Way Viaduct is an elevated roadway running along the City of Seattle's waterfront, and accounts for approximately 25 percent of the traffic through the downtown area. After the 6.8 magnitude Nisqually earthquake in 2001, the viaduct was damaged and temporarily shut down. A team of experts concluded that the existing structure could not be adequately retrofitted and had to be replaced. With work scheduled to begin in the summer of 2010, the eventual replacement of the viaduct will result in a new and earthquake-resilient segment of the arterial system through the State's most populous city.

Additionally, the TPA provides $891 million towards replacing the oldest and most vulnerable bridges, including $500 million towards the State Route 520 floating bridge. The existing State Route 520 floating bridge system that crosses Lake Washington is vulnerable to failure during severe windstorms and earthquakes. The new bridge system is designed to withstand effects from winds up to 92 mph and a 1,000-year earthquake.

The table below provides a summary of the status of the Bridge Seismic Retrofit Program. To date nearly $100 million has been invested in the program since 1991, and the TPA continues to provide additional funding to support the program.

Bridges in the Seismic Retrofit Program as of February 2010

Completely Retrofitted	246
Partially Retrofitted	140
Needing Retrofitting	481
Under Contract	14
Total	881

Source: WSDOT Bridge Office, May 2010, available at:
http://www.wsdot.wa.gov/Bridge/Reporting/SeismicRetrofitProgram.htm

Government Management Accountability and Performance (GMAP): Washington State's Governor instituted GMAP as the cornerstone of her accountability initiative.

The GMAP forums are focused on the highest priorities that each agency is responsible for, and include: Safety, Transportation, Economic Development, and the Environment. During the spring of 2008, the Governor added emergency management as an indicator of each agency's ability to make our state more resilient to disasters. A state agency's involvement in the hazard mitigation plan serves as an indicator for that agency's preparedness. Agencies are required to fill specific ESFs within the state's emergency operations center when activated; participates in exercises with EMD when appropriate; develops strategies for inclusion in the SHMP, and develops a COOP plan.

The State is a member of the board of directors and an active participant in the Cascadia Region Earthquake Workshop (CREW), a coalition of private and public representatives working together to improve the ability of Cascadia Region communities to reduce the effects of earthquakes.

Among the goals of the organization is fostering productive linkages between scientists, critical infrastructure providers, businesses and governmental agencies to improve the viability of communities after an earthquake. In 2005 the group published *Cascadia Subduction Zone Earthquakes: A magnitude 9.0 Earthquake Scenario* to help government agencies, businesses and families understand the potential effects of a subduction earthquake and thus help the region set priorities in the steps to prepare to make the area safer. As a follow-up to this publication, CREW developed and published additional resource documents including *Cascadia Deep Earthquakes* (2008) and *Cascadia Shallow Earthquakes* (2009) to represent the three distinct types of earthquake hazards found in the Pacific Northwest. Additionally, CREW published a guide entitled *Using the CREW Scenarios: Table Tabletop Exercises* (2007) to help facilitate the use of the products by non-emergency managers.

The U.S. National Tsunami Hazard Mitigation Program (NTHMP) is a partnership between Federal and State agency representatives designed to reduce the impact of tsunamis on U.S. coastal communities. Led by the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS), the NTHMP is the nation's community-focused program to improve tsunami mitigation and preparedness of at-risk areas within the United States and its territories (33 U.S.C. 3201 et seq).

The State of Washington is represented in the NTHMP by both WA EMD and DNR. The mission of the NTHMP is to develop resilient coastal communities that are highly informed and prepared for all tsunami hazards, that loss of life is negligible, and loss of property is minimized should a tsunami strike any U.S. state, commonwealth, or territorial coastline.

Nine social science surveys were completed in Washington that led to the development of *How the Smart Family Survived a Tsunami,* a Disaster Response Guidebook for Hotels and Motels on the coast, and *Map Your Neighborhood*, completed in the summer of 2006 to give communities step-by-step instructions for becoming self-sufficient in preparing and responding to a hazard incident.

For approximately 2-years, the Washington State Military Department and Green Diamond Resource Company have been in negotiations regarding an agreement to permit evacuation of coastal residents within Pacific County, Washington onto land privately held by Green Diamond during a disaster. Green Diamond Resource Company has agreed to make privately held timber land available as an evacuation route/site in the event of a disaster, including a tsunami, to citizens, first responders, and emergency management officials. In exchange for use of the aforementioned property as an evacuation site, the Washington State Military Department agrees to assume liability for damage to property and injury/death to persons caused by evacuation activities as allowed by law and subject to RCW 38.52.180. The agreement was executed in March 2009.

A variety of community outreach programs to include education pamphlets placed in visitor centers and other public places; 10-15 workshops per year are conducted for citizens and businesses in coastal areas; and, semi-annual evacuation drills and communication tests are conducted.

Washington State Emergency Management Division has continued to contract with the Washington State Department of Natural Resources to produce the bi-monthly newsletter on behalf of the NTHMP.

Newsletters have been published bi-monthly in an electronic format as well as hard copies to those who choose not to receive the publication via email. Print copies of TsuInfo Alert are distributed to over 325 people and the electronic version is emailed to more than 188 parties.

A coordinated letter signed on April 25, 2006 by the governors of the states of Washington, Oregon, California, Hawaii and Alaska was sent to the Chair of the House Science Committee detailing agreed-upon critical points for the success of future tsunami-related legislation.

The Washington State Broadcaster's Tsunami Emergency Guidebook was updated for 2008. Training was provided over the course of a two (2) week period to television and radio broadcasters by Washington Emergency Management Division's Tsunami Program staff, Washington Emergency Management Public Information Officers, and NOAA Warning Coordination Meteorologist's to all Seattle and 95% of coastal broadcasters that included the state and federal process and maps for evacuation along with a list of local experts and two DVDs they could use during an event.

A successful two-day tsunami response and recovery Integrated Emergency Management Course (IEMC) and functional exercise was conducted on October 22-23, 2008. The exercise, based on a simulated Cascadia Subduction Zone tsunami event off the northwest Washington coast, was facilitated by the Federal Emergency Management's Agency's Emergency Management Institute (EMI), based at Emmitsburg, Md.

Exercise participants included: the Hoh, Lower Elwha Klallam, Makah, Quileute, and Shoalwater Bay tribes and the Quinault Nation. Other participants included Clallam, Jefferson, Grays Harbor and Pacific counties as well as18 state and federal agencies.

Washington State EMD in coordination with the Pacific County Emergency Management Director and the Director of Emergency Management for the Shoalwater Bay Tribe completed three open-houses/workshops in Ocean Park, WA, Tokeland, WA and Grayland, WA for distribution of NOAA Weather Radios to low-income and special needs populations. A total of 102 participants completed a basic course on tsunami preparedness and programming a NOAA Weather Radio. Participants have agreed to be contacted at regular interval after receiving the radio to ensure it remains operable and they remain familiar with warning protocols.

Washington State EMD has continued to coordinate NOAA Warning Coordination Meteorologist's from the Seattle Forecast Office and Portland Forecast Office on the TsunamiReady program. Jefferson County, Washington was recognized as TsunamiReady by NOAA's National Weather Service in March 2009. With this designation, Washington State became the first state in the lower 48 to have all of its outer coastal counties recognized as TsunamiReady by NOAA's National Weather Service.

The Shoalwater Bay Tribe has completed the application to become TsunamiReady; however, the Tribal Council has not met to approve the application. This application is expected to be forthcoming. A total of 52 county, city, or tribal jurisdictions were eligible for TsunamiReady recognition. Of these 52 jurisdictions 9 have been recognized as TsunamiReady.

In partnership with the National Earthquake Hazards Reduction Program the state contributed to the development and dissemination of the latest information on geologic hazards:

As of May 18, 2010 50 All-Hazards Alert Broadcast (AHAB) sirens have been installed along the outer coast to provide timely warnings of tsunamis to the outdoor populations. Additionally, EMD partnered with Pierce County and the Puyallup Tribe of Indians to install a total of six new AHAB siren systems to provide rapid alert and notification to citizens and visitors who are in the Mt. Rainer Lahar Hazard Zone. EMD also supported the development of an AM emergency radio transmission capability for the Puyallup Valley that allows emergency personnel an additional tool to notify citizens of a natural or man-made disaster incident.

*Note: As of May 2010, three of the four projects noted above as "In Progress" have been completed: Sequim, Pt. Townsend-N. Beach and Seiku/Clallam Bay.

EMD and the Earthquake Engineering Research Institute (EERI) published the *Scenario for a Magnitude 6.7 Earthquake on the Seattle Fault* in partnership with the City of Seattle, City of Bellevue, USGS, Structural Engineers Association of Washington, American Society of Civil Engineers, University of Washington, and CREW. Hazards US (HAZUS) was used to develop the scenario that provided the framework for engineers, emergency managers and response personnel to identify key policy issues that coincided with the Washington Emergency Management Council's Seismic Safety 2004 Policy Recommendations.

Washington State Emergency Management, in partnership with FEMA, USGS, and URS Corporation have begun to develop a "*Washington State Earthquake Scenario Catalog," w*hich will provide USGS calculated ground motions for 15 scenarios that are consistent with the National Seismic Hazard Map. The scenario ground motions will ultimately be provided in ShakeMap format. HAZUS modeling results will be generated for a statewide study area as well as county specific results. This will allow for inclusion in the state and county mitigation plans, response plans, and facilitate realistic loss expectations in training and exercises.

The state represents the national emergency management community on the national steering committee guiding development of the Advanced National Seismic System. ANSS is a nationwide system of advanced instruments that provide real-time information on earthquakes, information about building and site response, and data on earthquake processes and solid earth structure and dynamics. The state also is a member of the regional ANSS steering committee, and is chair of a national group developing ANSS products for emergency managers. A major initiative of the regional ANSS committee has been upgrading the Pacific Northwest Seismograph Network with high-spatial-resolution information in order to generate better "ShakeMaps," or maps of earthquake intensity derived from measurements of ground shaking (*Information Tools to Improve Post-Earthquake Prioritization of WSDOT Bridge Inspections, June 2005).*

The state is an active partner in a Planning Workgroup comprised of public and private agencies that has established a coordinated response and mitigation plan for a Mount St. Helens/Mt Adams volcanic event. The plan has been coordinated and sent on for member agency review, and when approved will serve as the model for a future response plan for a Mt Baker/Glacier Peak volcanic event which would replace the current plan.

The state worked in partnership with Pierce County, the City of Orting and Orting School District to examine the feasibility of alternative locations for a route to evacuate schoolchildren and staff from a valley-flooding volcanic lahar from Mount Rainier. The *Alternatives Screening Evaluation, August 2007,* detailed the background of the project, the alternatives considered, and the next steps in the process toward designing and building the project.

EMD is working in partnership with WSDOT and other state agencies on the Bridge Seismic Retrofit Program. The group is currently involved in creating prioritization lists for structures that still need to be retrofit.

EMD worked with the US Geological Survey in 2006 to gain technical assistance in assessing community vulnerability to tsunami hazards on the open-ocean and Strait of Juan de Fuca coasts of Washington. The collaboration produced the report *Variations in Community Exposure and Sensitivity to Tsunami Hazards on the Open-Ocean and Strait of Juan de Fuca Coasts of Washington, 2007.* "The information presented in this report supports emergency, land-use, and resource managers in their efforts to identify where additional preparedness, mitigation, recovery planning and outreach activities may be needed within coastal communities and economic sectors," per page 41 of that report.

A strategy has been developed for several Washington State agencies, including, but not limited to: the Military Department's Emergency Management Division (EMD), Department of Natural Resources-Division of Geology and Earth Resources (DNR), and the Office of Superintendant of Public Instruction (OSPI) is to systematically evaluate all public school buildings within Washington in order to establish the seismic risk for each. This will allow for the prioritization of school structures in need of seismic retrofitting

across the state and permit a strategic, targeted approach for alleviating the risk of potentially dangerous school structures. WA EMD, with funding support from FEMA, will be undertaking a pilot project starting in April 2010 to evaluate school buildings in two school districts: Walla Walla and Aberdeen Public Schools. Since the staff and travel for this project is funded 100% by FEMA, the local districts will not need to provide any financial match or in-kind assistance as a condition of participating in this project.

The assessment will be conducted using FEMA's nationally accepted methodology known as "*Rapid Visual Screening of Buildings for Potential Seismic Hazards*." This would entail professionally licensed volunteer experts from the Structural Engineering Association of Washington (SEAW) and Washington Association of Building Officials (WABO) walking through school buildings to identify, inventory, and rank such buildings according to their expected safety and usability during and after earthquakes. To get a true picture of risk for a particular site, staff from the Department of Natural Resources, will use non-invasive methods that assess the physical site characteristics by measuring how seismic waves travel through soil. Overall, this comprehensive method will provide in-depth information as to how a site and a specific school structure would perform during an earthquake. The duration of an assessment at each school site would take approximately 1-2 hours and will not disrupt the classroom learning environment. In fact, teachers have used the site assessments by DNR as a teaching opportunity and the DNR staff have been able to provide a brief presentation to school children.

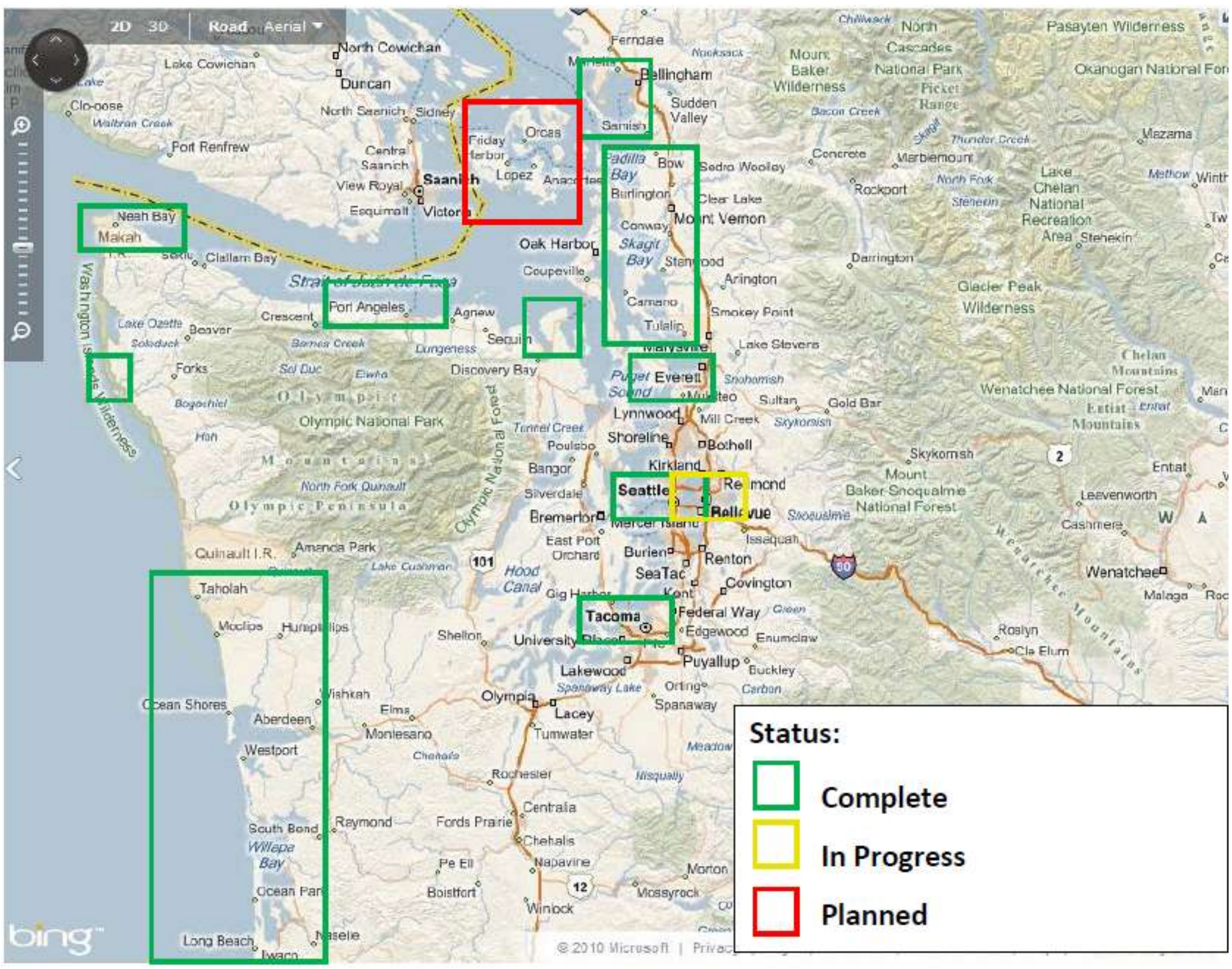
Upon completion of this pilot project, participating districts will be provided with a report that details the study findings for each school facility, as well as provides an ordered list of structures that should be targeted for retrofitting. In addition, the results of this study can be used by the school district to very strongly justify an application for FEMA grant funding through the Pre-Disaster Mitigation Grant Program (PDM) and the Hazard Mitigation Grant Program (HMGP) to seismically retrofit deficient structures, thus alleviating some of the future costs that could be incurred.

In coordination with the above, OSPI and EMD will seek grant funding to complete hazard mitigation plans for school districts statewide which are not presently covered under a plan. It is intended that OSPI will apply for a PDM grant during the FY2010 cycle.

The Washington State Seismic Safety Committee is working on developing lasting foundation for future seismic policy implementation for Washington State. The project is based upon the San Francisco Urban Planning and Research Association (SPUR) Initiative, entitled "*The Resilient City*", which examines the current state of resilience to a scenario quake in San Francisco. The Resilient City Initiative consists of three (3) reports: Before the Disaster, Disaster Response, and After the Disaster. The Seismic Safety Committee (SSC) has been reviewing this report over the past few months and intends to adapt the community-level guidance for a broader audience in Washington State. The Resilient State Project seeks to address different questions, such as, what do we need to be doing right now to shore up our buildings and lifelines, what happens in the days and weeks after a major earthquake, and when disaster strikes are we

positioned to rebuild even better than before? Duration of The Resilient State project is expected to last 1.5-2 years.

Along with the University of Washington's Joint Institute for the Study of the Atmosphere and Ocean, and NOAA's Pacific Marine Environmental Laboratory (PMEL), the state collaborated on the modeling of potential tsunami inundation along the outer coast and inland waterways of Puget Sound from local sources, such as the Cascadia Subduction Zone as well as worst case distant events from the Aleutian Islands. The results provided data for the creation of tsunami hazard maps covering these areas. The maps were prepared through NTHMP funds to assist local governments in the development of evacuation plans in areas at risk of potentially dangerous tsunamis. The group completed 80% of the tsunami inundation maps for coastal communities, covering 33 communities with 85,213 at-risk residents. In addition, the state worked with PMEL on a mapping project modeling tsunami inundation for Tacoma documented in the study *Tacoma, Washington, Tsunami Hazard Mapping Project: Modeling Tsunami Inundation from Tacoma and Seattle Fault Earthquakes, 2009.*



Tsunami Inundation Models, Hazard Maps, and Evacuation Brochures for Washington State

	Washington DNR	
Tsunami Model	Tsunami Hazard Map	Tsunami Evacuation Brochure
Southern Washington Coast	Southern Washington Coast	Long Beach and Ilwaco; Ocean Park and vicinity; North Cove and Tokeland; Bay Center and vicinity; Raymond and South Bend, Aberdeen and Hoquiam; Cosmopolis and South Aberdeen; Ocean City, Copalis Beach, Pacific Beach, and Moclips; Ocean Shores and Vicinity; Westport Grayland, and Ocosta
		Hoh Reservation
Quileute area	Quileute area	
Neah Bay	Neah Bay	
Port Angeles	Port Angeles	
Port Townsend	Port Townsend	
Anacortes/North Whidbey Island	Anacortes/North Whidbey Island	
Bellingham	Bellingham	Bellingham; Lummi Reservation; Sandy Point
		Point Roberts
Seattle	Seattle	
Tacoma	Tacoma	
Everett	in progress	
	Washington EMD	
		Clallam Bay and vicinity; La Push and vicinity; Neah Bay and vicinity; Port Angeles and vicinity; Sequim and vicinity; Port Townsend and vicinity

Washington Emergency Management Division coordinated with county, city, and tribal emergency managers in January 2009 on orders for 282 tsunami hazard zone and evacuation route signs from the Washington State Department of Transportation. A total of 136 evacuation route or hazard signs are currently located on state highways with several hundred more located on county and local roads. Signs were ordered and delivered in July 2009 for the Quinault Tribe, Quileute Tribe, Shoalwater Bay, Lower

Elwha, Lummi Nation, and the Makah Tribe. Counties that also ordered signs included Jefferson, Clallam and Whatcom.

An analysis of liquefaction areas and evacuation routes has been completed. Washington State Department of Natural Resources and the WA State Emergency Management Division will be presenting the findings to local jurisdictions and obtaining their input on whether/how to revise evacuation brochures. Due to the fact that most of the tsunami the inundation zone included within the study area is highly liquefiable, local jurisdictions may choose in the near-term to revise evacuation brochures alerting the public to be alert for ground failure and concentrate on walking routes. Longer-term solutions may include structural hardening of driving or walking routes.

Washington State is taking a national lead on the implementation of tsunami vertical evacuation for tsunami threatened communities. Through funding support from the National Tsunami Hazard Mitigation Program (NTHMP), Washington State Emergency Management along with USGS, NOAA's National Weather Service, FEMA, the University of Washington's Hazard Mitigation Institute and Pacific County Emergency Management have begun a grassroots, 'bottom-up' process to identify potential locations and types of vertical evacuation safe havens that are acceptable to the community. The planning team has been hosting a series of workshops in Long Beach, Ilwaco, Ocean Park, and the Tokeland Peninsula to identify vertical evacuation solutions that are supported by the local residents. Ultimately, this will conclude with a plan that identifies a preferred alternative along with preliminary engineering estimates for design and construction of the tsunami refuges. This project will continue through 2013 and also engaged communities in Grays Harbor, Jefferson, and Clallam counties.

The state is part of the Ocean Policy Advisory Group (OPAG) with the Department of Ecology and other agencies interested in solving problems related to the ocean environment. Some of the goals of the group are to enhance the sustainability and resilience of outer coast communities through appropriate economic development practices and also to protect the coastal environment and its communities from the threats of marine hazards such as storm surge and tsunamis. As a result of OPAG, the State Ocean Caucus was formed and meets to provide interagency collaboration.

EMD is part of the Western Climate Initiative (Senate Bill E2SSB 5560), a program administered by the Department of Ecology and in conjunction with many other state agencies as the state attempts to reduce the impact climate change within our region.

Forest Stewardship Program - The Department of Natural Resources (DNR) Forest Stewardship Program provides technical and financial assistance to help family forest owners improve forest health and reduce wildfire risk. Within this program, DNR cooperates with Washington State University Extension to conduct 8-week Forest Stewardship Coached Planning Shortcourses, in which landowners develop plans for the management of their property which include wildfire hazard reduction practices. Additionally, DNR administers a cost-share funding program that reimburses

landowners for 50% of the cost of wildfire hazard reduction practices including thinning, pruning, slash disposal, defensible space, and shaded fuel break construction.

FireWise - Working through the National Association of State Foresters, the Washington State DNR supports the FireWise Communities/USA recognition effort. The program is a nationwide initiative that recognizes communities for taking action to protect people and properties from the risk of fire in the wildland/urban interface. This program is of special interest to small communities and neighborhood associations that are willing to mitigate against wildfire by adopting and implementing programs tailored to their needs. The communities create the programs themselves with cooperative assistance from state forestry agencies and local fire staff. As of 2009, there are 35 FireWise Communities/ USA in Washington. There are five steps required to be recognized:

1. Complete an assessment and create a plan that identifies locally agreed-upon solutions that the community can implement
2. Have a FireWise task force, committee, commission or department
3. Observe a FireWise Communities/USA day each year
4. Invest $2 annually per capita in local efforts
5. Submit an annual report to FireWise Communities/USA

Community Wildfire Protection Program - Washington DNR and Federal Wildfire Agencies identified 199 high-risk Washington communities and listed them in the Federal register. Many of these communities are near lands managed by the United States Forest Service (USFS) or Bureau of Land Management (BLM). Wildland Urban Interface (WUI) communities near USFS/BLM managed lands can review and influence USFS/BLM hazardous fuel reduction activities and gain the opportunity to receive higher priority for grant funding for fuel reduction projects on non-federal land, if the community has completed a Community Wildfire Protection Plan (CWPP). There are five basic plan components:

1. Risk assessment- Completing a hazard evaluation, by some means looking at risk factors and designating the level of wildfire risk in the hazard area.
2. Defining wildland urban interface within the planning area.
3. Mapping the interface and potential mitigation projects.
4. Reviewing and prioritizing fuel mitigation projects on adjacent Federal lands.
5. Defining Mitigation strategies that homeowners can take to protect their homes.

In excess of 100 WUI Communities are covered under a CWPP or equivalent, and all of the communities currently under plan have begun some form of mitigation, either fuel reduction projects, education, or both. All remaining high risk communities in eastern Washington are fully engaged in public planning processes to develop a county-wide CWPP.

Legislative initiatives:

In 2007, the State Legislature passed SB 6141 which amended the state's existing forest health law (RCW 76.06) and provided funding of $1.3 million to initiate a pilot project and begin program development. This forest health program is managed by DNR and involves a three-tiered approach. The first and primary tier is to expand voluntary, preventive efforts that help maintain forests across all land ownerships in conditions that are resilient and resistant to insects, disease, and uncharacteristically severe wildfire. Options for more concerted actions, should forest health conditions worsen in a particular area, are made available in the second and third tiers. The pilot project involves tier one activities in Stevens County and intends to demonstrate the capabilities of the program so it can be instituted statewide. DNR will seek out additional funding in future legislative sessions to continue the program.

During the 2009 legislative session, the Legislature passed a bill related to NFIP, codified as RCW 48.27.030, which requires that:

1. Every insurer issuing a homeowner, condominium unit owner, residential tenant, and residential fire insurance policy that does not cover damage caused by flood must notify the policyholder that the policy does not cover damage caused by flood. The notice must also inform the policyholder how to contact the national flood insurance program ("NFIP") or one of the NFIP's agents. This notice must be provided:
   (a) At the time the policy is issued; and
   (b) At the time the policy is renewed.
2. The following language, when combined with current information about how to contact the NFIP or its agent, satisfies the notice requirements of this section:
   "This policy does not cover damage to your property caused by flooding. The federal government offers flood insurance through the National Flood Insurance Program to residents of communities that participate in its program. You can learn more about the National Flood Insurance Program at www.floodsmart.gov or by calling (888) 379-9531."
3. Nothing in this section invalidates a flood exclusion, or any other exclusion, in an insurance policy subject to this section

Also during the 2009 legislative session, the Legislature passed HB 1565 (RCW 48.07) in April 2009 that requires all domestic insurance companies conducting business in the state to create and maintain a written business continuity plan identifying procedures relating to a local, state, or national emergency or significant business disruption. The State's Insurance Commissioner was given the authority to adopt the standards for these business continuity plans.

Additional to the 2009 legislative session, the Legislature further enhanced the GMA by, among other things, prohibiting expansion of the UGA into the one hundred year floodplain of any river or river segment that is located west of the crest of the Cascade mountains, and has a mean annual flow of one thousand or more cubic feet per second as determined by the department of ecology

Requirement 44 CFR §201.5(b)(4)(iii): The State provides a portion of the non-Federal match for HMGP and/or other mitigation projects.

Washington State's commitment to hazard mitigation extends to its contribution toward the 25 percent non-federal cost share requirement of the HMGP since established in the late 1980s.

In 23 disasters from 1989 through 2009, the state has contributed more than 13 percent of the costs of mitigation projects funded by the program. The percentage of contribution to the cost-share can differ, depending upon a number of factors, including the availability of resources and desires of the Governor and Legislature. However, in these 23 disasters, the state committed to split the non-federal share evenly with local jurisdiction HMGP participants. The final local share spent can sometimes be higher than the required amount due to cost-overruns.

The table below shows the breakdown of costs borne by federal, state and local governments for all HMGP projects since 1989; a full spreadsheet with cost shares by disaster is shown in Table 1 in Section IV of this tab.

Hazard Mitigation Grant Program – Cost Shares through January 2010

	Federal	State	Local	Total
Total Investment	$108,114,230	$20,097,156	$22,364,815	$150,576,202
Percent Cost Share	71.80%	13.35%	14.85%	100%

Notes on the state's expenditures for the HMGP and FMA:

Administration of the HMGP for the October 2003 Flood Disaster (DR-1499), the May 2006 Winter Storm Disaster (DR-1641), the November 2006 Floods/Storms (DR-1671), the December 2006 Windstorm (DR-1682), the December 2007 Floods (DR-1734), the January 2009 Floods/Storms (DR-1817), and the December 2008 Winter Storms (DR-1825) is ongoing.

For the January 2009 Floods (DR-1817), the dollar figures are from the 12-month lock-in of federal funding, but could change as the State has submitted additional Project Worksheets for approval under that disaster.

For the PDM and FMA, the state has not chosen at this time to provide a portion of the 25 percent of non-federal cost share; applicant agencies are responsible for providing the entire amount through other available sources.

Requirement 44 CFR §201.5(b)(4)(iv): To the extent allowed by State law, the State requires or encourages local governments to use a current version of a nationally applicable model building code or standard that addresses natural hazards as a basis for design and construction of State sponsored mitigation projects.

In 2003, the Legislature approved a measure (RCW 19.27.031) that adopted the International Codes (I-Codes) for building, residential, fire, and mechanical codes that take into account the current seismic risk and other hazard factors. These codes took affect statewide in July 2004 and are tri-annually updated by the International Code Council. Once the new editions of the codes are available the Washington State Building Code Council (SBCC) reviews and adopts the codes. While adopting some of the I-Codes, the SBCC also adopts other codes and amendments to the I-Codes to account for the unique building situations encountered in the state.

On July 1, 2007, the 2006 editions of the I-Codes for building, residential, fire, and mechanical codes took affect statewide following approval by the Legislature and adoption by the State Building Code Council (SBCC). Community planning departments and buildings officials administer the codes locally and can amend the state building code as long as it does not diminish the minimum performance standards of the state code. In November of 2009, the SBCC adopted the 2009 editions of the I-Codes for the codes, to include: the Building, Residential, Mechanical and Fire I-Codes; the 2009 Uniform Plumbing Code, published by the International Assoc of Plumbing and Mechanical Officials (IAPMO); and the Washington State Energy Code. The Energy code is a unique state code (Washington State Energy Code WAC 51-11). Additionally, in an effort to increase floodplain mitigation, FEMA, the Structural Engineering Institute (SEI) of the American Society of Civil Engineers (ASCE) and other organizations, developed minimum requirements for flood-resistant design and construction of buildings. These were integrated into previous editions of the I-Codes and met the minimum regulations for design and construction necessary for NFIP compliance. During 2009, an amendment in the IRC was created requiring freeboard above base flood elevation in single family homes as follows: WAC 51-51-0322 - Flood resistant construction. R322.2.1 Elevation Requirements. 1. Buildings or structures in flood hazard areas not designated as Coastal A zones, shall have the lowest floor elevated to or above the design flood elevation, or a greater elevation as designated by local ordinance.

Additionally, in 2009, the SBCC adopted the International Existing Building Code (IEBC) I-Code as an appendix chapter available for local adoption (WAC 51-50-480000). The IEBC has performance criteria for seismic forces and requires seismic upgrades where 30 percent of a building roof or floor area is involved in an alteration. It also conducted a technical group on the Wildland and Urban Interface Code (WUIC) and has recommended adoption as an appendix to the fire code. So, local jurisdictions may adopt it effective as of July 1, 2010.

Requirement 44 CFR §201.5(b)(4)(v): A comprehensive, multi-year plan to mitigate the risks posed to existing buildings that have been identified as necessary for post-disaster response and recovery operations.

A number of projects funded by HMGP funds following the Nisqually earthquake disaster of February 2001 will mitigate the risks posed to local buildings used for disaster response and recovery operations. This includes facilities used by first responders, school buildings used for evacuation centers, and water facilities needed by communities. Projects funded include seismic retrofits of fire stations in Aberdeen, Port Townsend and South Bend, the city hall in South Bend, school buildings in La Conner, Littlerock, Onalaska, and South Bend, a hospital in Olympia, and water storage facilities in four King County communities. Previously, the state has helped fund generators or wiring for generators for local critical facilities including water systems.

At the state level, the Department of General Administration includes seismic retrofits for all major state-owned facilities, including those on the Capitol Campus in Olympia, when those structures are renovated or rehabilitated. An example of this is the reconstruction of the Legislative Building (the state capitol building), which was damaged in the Nisqually earthquake. A three-year rehabilitation and earthquake-repair project was completed in 2004. The $120 million project modernized numerous areas of the structure to include making seismic upgrades.

Additionally, in response to the State Seismic Safety Committee's December 2003 report to the Governor's Emergency Management Council in which it recommended an effort to identify and address the seismic vulnerabilities of schools, fire and police stations, and hospitals, a HAZUS-Multi-Hazard Methodology (HAZUS-MH) pilot project was funded by EMD for the City of Seattle. The project ran two scenarios, the Nisqually (deep earthquake) scenario and the EERI Seattle fault scenario, to produce damage estimates that will be used to support mitigation and preparation planning.

Also, in the Governor's press conference at Ocean Shores on August 12, 2005 she enumerated six goals critical to tsunami preparedness, the last of which delineated her commitment to improve building standards in high risk, low elevation areas where people might be required "to take refuge in or on buildings that can withstand both the quake and the tsunami wave" (*Pacific Northwest News).* The other 5 goals were:

1. Improving the coastal detection network.
2. Requesting funding from state and federal sources for construction and installation of local tsunami warning systems.
3. Ensuring that all levels of government provide a consistent tsunami warning and response.
4. Improving public education and awareness by developing a sustained education campaign to increase the readiness of children and adults.

5. Improving tsunami evacuation routes by establishing a complete geological map of the roads to improve the public's ability to evacuate safely.

During the 2007-2010 update cycle FEMA grants have funded the seismic retrofit of two community centers in King County, both of which serve as shelters during disasters. This is particularly significant presently within King County because of the issue with the Howard Hanson Dam (potential dam failure discussed in the Dam Safety profile within Tab 5, the *Risk Assessment*). Should the dam fail and the Green River Valley become flooded, both of these shelters will be critical for the impacted communities.

A strategy has been developed for several Washington State agencies, including, but not limited to: the Military Department's Emergency Management Division (EMD), Department of Natural Resources-Division of Geology and Earth Resources (DNR), and the Office of Superintendant of Public Instruction (OSPI) is to systematically evaluate all public school buildings within Washington in order to establish the seismic risk for each. This will allow for the prioritization of school structures in need of seismic retrofitting across the state and permit a strategic, targeted approach for alleviating the risk of potentially dangerous school structures. WA EMD, with funding support from FEMA, will be undertaking a pilot project starting in April 2010 to evaluate school buildings in two school districts: Walla Walla and Aberdeen Public Schools. Since the staff and travel for this project is funded 100% by FEMA, the local districts will not need to provide any financial match or in-kind assistance as a condition of participating in this project. In addition to the life safety issue surrounding the students attending these schools, many schools buildings have been identified as necessary for post-disaster response and recovery operations; the potential of retrofitting those schools through mitigation dollars will be extremely beneficial to the local jurisdictions that rely on such facilities.

Washington State is taking a national lead on the implementation of tsunami vertical evacuation for tsunami threatened communities. Through funding support from the National Tsunami Hazard Mitigation Program (NTHMP), Washington State Emergency Management along with USGS, NOAA's National Weather Service, FEMA, the University of Washington's Hazard Mitigation Institute and Pacific County Emergency Management have begun a grassroots, 'bottom-up' process to identify potential locations and types of vertical evacuation safe havens that are acceptable to the community. The planning team has been hosting a series of workshops in Long Beach, Ilwaco, Ocean Park, and the Tokeland Peninsula to identify vertical evacuation solutions that are supported by the local residents. Ultimately, this will conclude with a plan that identifies a preferred alternative along with preliminary engineering estimates for design and construction of the tsunami refuges. This project will continue through 2013 and also engaged communities in Grays Harbor, Jefferson, and Clallam counties. Community Centers in Seattle. Over the last several years, EMD and the Department of Commerce have been successful in developing building codes which support these efforts through the IEBC. It is anticipated that those codes will be adopted during the next three year building code cycle.

Washington State is home to countless bridges, many are considered critical infrastructure as they are the primary transportation hubs connecting one area to another, such as the case with the Tacoma Narrows Bridge connecting the Key Peninsula to Tacoma. Were the Narrows Bridge impassable, the commute from Gig Harbor through the Peninsula to Tacoma would be several hours. In an effort to maintain the integrity of many of these bridges, the Transportation Partnership Account (TPA), (described above) will fund 274 transportation projects across the state over a 16-year period. In 2007, the State Department of Transportation began work on the portion of the bridge seismic retrofit program that was allocated $87 million in funds from TPA. This program is focused on strengthening the support columns of bridges in the Central Puget Sound region to make them more resistant to earthquake damage.

The TPA provides $2 billion in funds for the replacement of the Alaskan Way Viaduct (State Route 99). The Alaskan Way Viaduct is an elevated roadway running along the City of Seattle's waterfront, and accounts for approximately 25 percent of the traffic through the downtown area. After the 6.8 magnitude Nisqually earthquake in 2001, the viaduct was damaged and temporarily shut down. A team of experts concluded that the existing structure could not be adequately retrofitted and had to be replaced. With work scheduled to begin in the summer of 2010, the eventual replacement of the viaduct will result in a new and earthquake-resilient segment of the arterial system through the State's most populous city.

Additionally, the TPA provides $891 million towards replacing the oldest and most vulnerable bridges, including $500 million towards the State Route 520 floating bridge. The existing State Route 520 floating bridge system that crosses Lake Washington is vulnerable to failure during severe windstorms and earthquakes. The new bridge system is designed to withstand effects from winds up to 92 mph and a 1,000-year earthquake.

The table below provides a summary of the status of the Bridge Seismic Retrofit Program. To date nearly $100 million has been invested in the program since 1991, and the TPA continues to provide additional funding to support the program.

Bridges in the Seismic Retrofit Program as of February 2010

Completely Retrofitted	246
Partially Retrofitted	140
Needing Retrofitting	481
Under Contract	14
Total	881

Source: WSDOT Bridge Office, May 2010, available at:
http://www.wsdot.wa.gov/Bridge/Reporting/SeismicRetrofitProgram.htm

In conjunction with the Resilence Institute Environmental Studies at Western Washington University and funded through the Department of Homeland Security 2009

Earthquake Hazard Reduction State Assistance Program, the State Earthquake Program has provided funds to complete a comrpehsnive evaluation of current seismic risk reduction policies both in Washington and across the Country. This project consists of conducting a Gap Analysis of Washington State's seismic policies in comparison to policies of other US states.

Requirement 44 CFR §201.5(b)(4)(vi): A comprehensive description of how the State integrates mitigation into its post-disaster recovery operations.

Hazard mitigation is an integral part of Washington's post-disaster recovery operations. Staff from the Mitigation and Recovery Section of the State EMD co-locates with mitigation staff from FEMA at the Joint Field Office (JFO) as soon as it opens. Staff from other state agencies that may have particular interest or jurisdiction in the disaster and in recovery operations also co-locate at the JFO. State and FEMA staffs work to identify mitigation opportunities through both the Individuals and Households Program (IHP) and the Public Assistance Program. IHP/State Human Services program staff members often provide mitigation information to disaster victims. State and federal mitigation staffs work together to identify public education opportunities and use existing materials or develop new materials specific to the hazard and disaster event. Public Assistance program staff encourages potential project applicants to identify mitigation elements in repair and restoration projects. Mitigation and public assistance program staffs often jointly conduct applicant briefings to discuss mitigation opportunities through both public assistance and hazard mitigation grant programs. State mitigation staff quickly disseminates letters of intent and information on the HMGP to potential applicants, and provide technical assistance to potential applicants on the grant application process.

APPENDIX 1
INTEGRATION WITH OTHER PLANNING INITIATIVES

The following details other planning initiatives available statewide which compliment various mitigation initiatives and strategies currently underway.

Aquatic Lands Law – (RCW 79.105-140 and RCW 79.105.500-520)
The purpose of the Aquatic Lands Law is to exercise the state's ownership interest over submerged lands for the benefit of the public trust. The Department of Natural Resources' (DNR) primary jurisdiction derives from its exercise of state ownership of the tidelands, shorelands, harbor areas, and the bed of navigable rivers. State ownership includes ownership of all valuable materials on or under such lands, including sand and gravel. State ownership also includes proprietary jurisdiction over the use of placement of structures on such lands. DNR jurisdiction comes to bear in the case of any proposal for removal of sand or rock from state-owned lands for use in a coastal erosion-related project, or for any proposal to place materials on state-owned lands for such purpose. DNR jurisdiction does not extend to the actual placement of materials on coastal intertidal areas managed by State Parks, or on land above high tide. The Aquatic Lands Strategic Plan, December 2008, , sets out the ten-year goals, strategies, and intended outcomes for DNR's Aquatic Resources Program. The plan is available at: www.dnr.wa.gov/Publications/aqr_aquatic_lands_strategic_plan_2008.pdf

Clean Water Act – Section 404 and 401 (Public Law 92-212, 33 U.S.C. Section 1251, et seq.)
The primary goal of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The Washington State Department of Ecology manages the state program. Section 401 requirements pertain to any activity that requires a federal permit and that may result in a discharge to state water. Section 401 is implemented through a certification process and ensures that federally permitted activities comply with the federal CWA, state water quality laws, and any other appropriate state laws. Section 404 is specifically directed towards regulating discharge of dredged or fill material into waters of the United States. It provides for government and public review and comment on projects that alter or destroy waters of the United States by filling or disposal of dredge spoil. A permit program is used to administer the provisions of Section 404. The U.S. Army Corps of Engineers issues or denies permits.

Coastal Zone Management Act (CZMA) of 1972 as amended – (16 U.S.C. 1455 et seq.)
The CZMA, first passed in 1972, is the single overarching federal law dealing with planning for the nation's coastal regions. The State of Washington became the first state to achieve a federally-approved state CZM Program in 1976. Its basic aim is to encourage federal/state collaboration using federal incentives in the form of matching grants. Sections 305 and 306 provide funds for the preparation and implementation of state coastal zone management plans. The act also provides for consistency between

state and federal coastal plans, and federal actions must comply with approved state plans. The National Oceanic and Atmospheric Administration (NOAA), an agency of the U.S. Department of Commerce, administers the act. The primary purpose of the CZMA is to: "preserve, protect, develop, and where possible, to restore or enhance, the resources of the nation's coastal zone for this and succeeding generations." The 1980 amendment to the act added hazard management as one of nine new elements in state coastal zone management plans. The 1990 reauthorization specified the mitigation of natural hazards including sea-level rise.

Washington State's coastal zone generally includes all the shorelines of the state under the Shoreline Management Act in the fifteen coastal counties which either border on the Pacific Ocean (including Wahkiakum) or on the Puget Sound. This federal law is implemented through the state's Coastal Zone Management Program. That program includes the Shoreline Management Act, the state Environmental Policy Act, the Ocean Resources Management Act, the Clean Water Act and the Clean Air Act.
Lead Agency: Washington State Department of Ecology.

Community Wildfire Protection Plans (CWPP) – In order to access federal funding authorized by the Federal Healthy Forests Restoration Act of 2003, communities must prepare a CWPP. The CWPP may address issues such as wildfire response, hazard mitigation, community preparedness, and structure protection.
www.dnr.wa.gov/RecreationEducation/Topics/FireBurningRegulations/Pages/rp_burn_countymitigationplans.aspx

Critical Areas Ordinances – (RCW 36.70A)
The Growth Management Act (GMA) requires that all jurisdictions review, evaluate, and, if necessary, revise their critical areas ordinances to protect the five designated "critical areas". It defines "critical areas" as (1) wetlands, (2) areas with a critical recharging effect on aquifers used for potable water, (3) fish and wildlife habitat conservation areas, (4) frequently flooded areas, and (5) geologically hazardous areas. For jurisdictions that are not in compliance with the Act, the State may deem them ineligible for Hazard Mitigation Assistance Grants. See GMA section below for additional info as well as the Shoreline Management Act section for integration of the two Acts.
Lead Agencies: Department of Commerce for overall GMA program, Department of Ecology for frequently flooded areas, and Department of Natural Resources for geologically hazardous areas. www.commerce.wa.gov/site/745/default.aspx

Earthquake Hazards Reduction Act of 1977 – (Public Law 95-124) Established the National Earthquake Hazards Reduction Program (NEHRP) which is managed as a collaborative effort among FEMA, the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), and the U.S. Geological Survey (USGS).

Earthquake Standards for Construction – (RCW 70.86) State law requires hospitals, schools (except one story, portable, frame school buildings), buildings designed or constructed as places of assembly accommodating more than three hundred persons,

and all structures owned by the state, county, special districts, or any municipal corporation within the state be designed and constructed to resist probable earthquake intensities.

Emergency Work in Watercourses – (RCW 77.04.012, 36.32.280, 36.32.290, 36.32.300, 38.52, 35.32A.060, 35.33.081, 35.33.091)
Counties and cities have authority under various sections of the RCW to work in watercourses for the purpose of preventing floods that may threaten life and property or cause damage to public or private property. The RCW also charges the Department of Fish and Wildlife to preserve, protect, perpetuate, and manage the fish and wildlife resources of the state.

Executive Order 12699, Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction (Resistant Buildings)
Requires that new construction of federal buildings must comply with appropriate seismic design and construction standards.

Flood Control Assistance Account Program – (RCW 86.26.050, WAC173-145-010)
Provides that county and other municipal corporations responsible for flood control maintenance may apply to the Department of Ecology for financial assistance for the preparation of comprehensive flood control management plans and for flood control maintenance projects as described in RCW 86.26.105. The department determines priorities and allocates available funds from the Flood Control Assistance Account Program (FCAAP) among those counties applying for assistance, and adopts regulations establishing the criteria by which such allocations shall be made. Criteria are based upon proposals that are likely to bring about public benefits commensurate with the amount of state funds allocated.

Floodplain Management Act (RCW 86.16.041)
Purpose is to avoid direct or indirect support of floodplain development and to minimize harm to floodplains and wetlands. Federal decision makers are obligated to comply with these orders, accomplished through an eight-step decision-making process. The Flood Plain Management Act prohibits any new residential developments (or substantial improvements to existing residences) in designated floodways. Floodways are considered the most dangerous areas of a floodplain, and the goal of the prohibition is to save lives and prevent repetitive damage to buildings.

The 1999 legislature changed the code to allow repairs or replacement of existing farmhouses located on commercial farm sites within a designated floodway under certain conditions. Lead agency: Department of Ecology

Floodplain Management, Executive Order 11988 – (42 F.R. 26951, et seq.) Compels Federal Agencies to evaluate Federally-funded actions in floodplains and find alternative actions outside of the floodplain if possible.

Forest Practices Act – (RCW 76.09, WAC Title 222)
The act was revised in 2010 to declare that it is in the public interest of the state to encourage forest landowners to undertake corrective and remedial action to reduce the impact of mass earth movements and fluvial processes. Additionally, the 2010 revision directs that the forest practices board establish a program for the acquisition of riparian open space, including forest lands within unconfined channel migration zones. Consequently, the Forest Services Act works to mitigate the economic losses caused by channel migration, control the erosion of streams, and aids in the prevention of landslides. Lead agency: Department of Natural Resources

Growth Management Act – (RCW 36.70A)
The legislature found that uncoordinated and unplanned growth posed a threat to the environment, sustainable economic development, and the health, safety, and high quality of life enjoyed by residents of the state. The legislature concluded "it is in the public interest that citizens, communities, local government, and the private sector cooperate and coordinate with one another in comprehensive land use planning." The Act requires that jurisdictions of a certain size (based on population and population increases) define their urban growth areas and that expansion of an urban growth area is prohibited into the one hundred year floodplain of any river or river segment (with some exceptions). The Act requires that all jurisdictions review, evaluate, and, if necessary, revise their critical areas ordinances to protect the five designated "critical areas". It defines "critical areas" as (1) wetlands, (2) areas with a critical recharging effect on aquifers used for potable water, (3) fish and wildlife habitat conservation areas, (4) frequently flooded areas, and (5) geologically hazardous areas. For jurisdictions that are not in compliance with the Act, the State may deem them ineligible for Hazard Mitigation Assistance and other grants. See the Shoreline Management Act section below for info on how the two Acts are integrated. During the 2009-2010 Legislative Session, modifications were made to this Act which further prohibit expansion of the UGA into the one hundred year floodplain.
Lead Agencies: Department of Commerce for overall GMA program, Department of Ecology for frequently flooded areas, and Department of Natural Resources for geologically hazardous areas. www.commerce.wa.gov/site/418/default.aspx

Integrated Fixed Facility Radiological and Chemical Protection Plan, March 2008
The plan provides a one-source document for the various fixed facilities, six Washington counties, and multiple state and federal agencies that are directly involved in emergency planning for these facilities.
Lead Agency: Military Department – Emergency Management Division
www.emd.wa.gov/plans/documents/IFFRCPPMarch2008.pdf

National Environment Policy Act of 1969– (NEPA) (42 U.S.C. 4321-4347)
"NEPA is the basic national charter for protection of the environment. It establishes policy, sets goals, and provides means for carrying out the policy. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and

welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality."

The State Environmental Policy Act (SEPA) – (RCW 43.21A)
SEPA is intended to ensure the environmental values are considered during decision-making by state and local agencies. SEPA provides policies, goals, and procedures intended to ensure that agencies consider the environmental impacts related to their decision on proposals that may have a significant impact on the environment. The current RCW states that "the legislature recognizes and declares it to be the policy of this state that it is a fundamental and inalienable right of the people of the state of Washington to live in a healthful and pleasant environment and to benefit from the proper development and use of its natural resources. The legislature further recognizes that as the population of our state grows, the need to provide for our increasing industrial, agricultural, residential, social, recreational, economic and other needs will place an increasing responsibility on all segments of our society to plan, coordinate, restore and regulate the utilization of our natural resources in a manner that will protect and conserve our clean air, our pure and abundant waters, and the natural beauty of the state."

National Fire Plan (NFP) – Developed in response to the wildland fires of 2000, the plan and associated Congressional funding helped communities develop Community Wildfire Protection Plans (see description above) and accomplish Hazardous Fuels Reduction projects. The State has taken full advantage of this program and local communities have completed numerous CWPPs and projects.
Lead State Agency: Department of Natural Resources
www.dnr.wa.gov/RecreationEducation/FirePreventionAssistance/Pages/Home.aspx

National Flood Insurance Program (NFIP)
The NFIP is a FEMA program based on several pieces of legislation that originated with the National Flood Insurance Act of 1968. The program deals with both riverine and coastal floodplains. The NFIP is a voluntary program, but flood insurance is available only in communities with an approved floodplain management program in effect. The State Department of Ecology serves as the state coordinating agency for the NFIP and works with FEMA and local communities to address state concerns.
Lead State Agency: Department of Ecology
www.fema.gov/business/nfip/ www.ecy.wa.gov/pubs/0806011.pdf

Policy Plan for Improving Earthquake Safety in Washington, December 1, 1991 and Policy Recommendations 2004 – The 1991 Policy Plan listed several strategies for the State to implement to mitigate earthquake damage. Although many of the strategies were implemented over the ensuing years, the 2001 Nisqually earthquake demonstrated the need for more action. Therefore, the State's Seismic Safety Committee developed a Policy Recommendations report in 2004 to update the 2001 Policy Plan as well as outline additional strategies. The Committee meets regularly to review the current progress on implementation of the strategies and any developments in the seismic safety field.
www.emd.wa.gov/about/SeismicSafetyCommittee.shtml

Protection of Wetlands, Executive Order 11990 – (42 F.R. 26961 et. seq.)
Purpose is to avoid direct or indirect support of floodplain development and to minimize harm to floodplains and wetlands. Federal agencies are obligated to comply with these orders, accomplished through an eight-step decision-making process.

The Hydraulic Code of 1943 – (RCW 77.55.021, 77.55.081, 77.55.131, 77.55.191, 77.55.261, 77.55.291, WAC 220-110)
The state Hydraulic Code, administered by the Washington Department of Fish and Wildlife (WDFW), is intended to protect fish life and habitat. The code applies to activities in and near the ordinary high water line of all marine and fresh waters of the state. Approval of the WDFW is required before construction or other work that will use, divert, obstruct, or change the natural flow or bed of any state waters. The permit must be in compliance with the State Environmental Policy Act.
wdfw.wa.gov/hab/hpapage.htm

The Ocean Resources Management Act – (RCW 43.143.005 – 43.143.902)
Enacted in 1989 and amended in 1997, this chapter of the RCW articulates policies and establishes guidelines for the exercise of state and local management authority over Washington's coastal waters, seabed, and shorelines. This statute addresses the coastal and ocean natural resources within three miles of the state's coastline, defined here as from mean high tide seaward three miles along the Washington coast from Cape Flattery south to Cape Disappointment. The statute enumerates eight criteria to be met or exceeded in the decision-making processes by which the State of Washington and local governments must develop plans for the management, conservation, use, or development of natural resources in Washington's coastal waters (RCW 43.143.030).

The Seashore Conservation Act – (RCW 79A.05.600-625)
Enacted in 1967 and substantially amended in 1969, the Seashore Conservation Act (SCA) declares the necessity of dedicating the uses of the Pacific Ocean Beaches of Washington "…to public recreation and to provide certain recreational and sanitary facilities." The SCA also established "for the recreational use and enjoyment of the public" the Washington State Seashore Conservation Area and placed its administration under the jurisdiction of Washington State Parks and Recreation Commission. The SCA applies to "the beaches bounding the Pacific Ocean from the Straits of Juan de Fuca to Cape Disappointment at the mouth of the Columbia River.

The Shoreline Management Act of 1971 – (RCW 90.58) (WAC 173-145)
The citizens of Washington State passed the Shoreline Management Act (SMA) in 1971 in recognition of the state's shorelines as "among the most valuable and fragile of its natural resources" and the great concern throughout the state relating to their utilization, protection, restoration, and preservation. The SMA includes all shorelines (streams greater than 20 cfs and associated wetlands and lakes larger than 20 acres), shorelands (lands extending 200 feet from the Ordinary High Water Mark of the shoreline), and some or all of the 100-year floodplain when associated with the first two

areas. The overarching goal of the Act is "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines."
The SMA calls for cooperative program between local governments and the Department of Ecology (Ecology). It provides local governments with special guidelines for creating their policies and regulations for shorelines of statewide significance. The Act required that all cities and counties with shorelines prepare and adopt a Shoreline Master Program (SMP), which is essentially a shoreline-specific combined comprehensive plan, zoning ordinance, and development permit system. Ecology provides grants to fund the development of comprehensive SMP updates. Cities or counties that are not in compliance can be restricted from receiving project grants from Ecology and other agencies. Additionally, the Legislature enacted a bill in early 2010 that clarifies the integration of the SMA policies with the GMA. Among other resolutions, it requires that SMP regulations must provide a level of protection of critical areas at least equal to that provided by the county or city's adopted or thereafter amended critical areas ordinances. www.ecy.wa.gov/programs/sea/sma/st_guide/intro.html

The Tsunami Warning and Education Act – (Public Law 109-424)
Enacted in 2006, the Tsunami Warning and Education Act develops improved tsunami mapping and modeling to assist research to increase detection coverage, develop accurate forecasting and warning systems, and improve mitigation efforts and educational outreach programs to ensure the safety of life and property. The Act also expands the existing Pacific Tsunami Warning System to enhance the coverage and forecasting abilities of other vulnerable areas in the United States, including the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico regions. The State Emergency Management Division has a robust Tsunami Warning and Education program that takes full advantage of the benefits of the Act.
www.emd.wa.gov/hazards/haz_tsunami.shtml

State Building Code Act – (RCW 19.27)
The purpose of the building code is to promote the health, safety and welfare of the occupants or users of buildings and structures and the general public by the provision of building codes throughout the state. The code requires minimum performance standards and requirements for construction and construction materials, consistent with accepted standards of engineering, fire and life safety.

International Codes (I-Codes)
The three regional model code groups established the International Code Council (ICC) in 1994 to develop one standard set of model building and fire codes to protect occupants of new and existing residential and commercial buildings, including homes and schools. The code development and approval is a consensus-based private-sector code development process. The ICC has developed thirteen separate codes, including the International Building Code (IBC), the International Existing Building Code (IEBC), the International Residential Code (IRC), the International Mechanical Code (IMC), the International Fire Code (IFC), and the International Wildland-Urban Interface Code (IWUIC).

The State Building Code Act (RCW 19.27) created a State Building Code Council (SBCC) to develop, monitor, and adopt building codes adapted for the unique building situations encountered in Washington State. In November 2009, the SBCC adopted some of the ICC's 2009 editions of the I-Codes, as well as various other Residential, Mechanical, Fire, Plumbing, and Energy codes such as:

The ICC's IBC, IEBC, IRC, IMC, and IFC with certain amendments. The council did not formally adopt the IWUIC, but there is a Wildland-Urban Interface Code appendix to the State Building Code (WAC 51-54-4800).

The 2009 Uniform Plumbing Code as published by the International Assoc of Plumbing and Mechanical Officials (IAPMO) with certain amendments.

The 2009 Washington State Energy Code (WAC 51-11).

Additionally, in an effort to increase floodplain mitigation, FEMA, the Structural Engineering Institute (SEI) of the American Society of Civil Engineers (ASCE) and other organizations, developed minimum requirements for flood-resistant design and construction of buildings. These were integrated into previous editions of the I-Codes and meet the minimum regulations for design and construction necessary for NFIP compliance.

In 2009, an amendment in the IRC was adopted requiring freeboard above base flood elevation in single family homes as follows: WAC 51-51-0322-Flood resistant construction. R322.2.1 Elevation Requirements. 1. Buildings or structures in flood hazard areas not designated as Coastal A Zones, shall have the lowest floor elevated to or above the design flood elevation, or a greater elevation as designated by local ordinance. 2. Buildings and structures in flood hazard areas designated as Coastal A Zones shall have the lowest floors elevated to or above the base flood elevation plus 1 foot, or to the design flood elevation, whichever is higher. 3. In areas of shallow flooding (AO Zones), buildings and structures shall have the lowest floor (including basement) elevated at least as high above the highest adjacent grade as the depth number specified in feet on the FIRM, or at least 2 feet if a depth number is not specified. 4. Basement floors that are below grade on all sides shall be elevated to or above the design flood elevation.
www.sbcc.wa.gov/

Washington State Comprehensive Emergency Management Plan (CEMP)
The CEMP is a comprehensive framework for statewide mitigation, preparedness, response, and recovery activities, and provides for interoperability between local, state and federal levels of government during emergencies or disasters.
www.emd.wa.gov/plans/documents/CompleteCEMP.pdf

Washington State Fire Services Resources Mobilization Plan, April 2009 – (RCW 43.43.960-975)
The "Mobilization Plan" is an appendix to ESF4 (firefighting) of the *Comprehensive Emergency Management Plan*. The plan is used for state mobilization of fire resources in Washington State in response to a wildland fire or other emergency that exceeds the firefighting capacity of the affected local jurisdiction(s).
Lead Agency: Washington State Patrol
www.wsp.wa.gov/fire/docs/mobilization/mobeplan/cover_and_all_sections.pdf

Water Resources Development Act of 2007 – (Public Law 110-114)
The Act "provides for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes."
Lead Agency: Department of Ecology